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Summary of Occupational Injuries, Illnesses, and Fatalities In the Petroleum Industry

As Reported to the American Petroleum Institute, Covering Petroleum and Petrochemical Operations of Reporting Companies for 1987

JUNE 1988

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

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Safety and Fire Protection Department

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Institute

SUMMARY OF OCCUPATIONAL INJURIES, ILLNESSES, AND FATALITIES IN THE PETROLEUM INDUSTRY FOR 1987

Participants in the 1987 summary were asked to submit data according to the Bureau of Labor Statistics (BLS) Recordkeeping Guidelines for Occupational Injuries and Illnesses - September 1986 Edition. The survey provides incidence rates per 200,000 work hours on the same basis as those reported by the BLS.

This report is based on data submitted to the American Petroleum Institute (API) by ninety-six oil and gas companies employing over 254,000 persons with a work experience of more than 516,000 hours. The Total Case Incidence Rate was found to be 3.89 for 1987, as compared to 3.45 for 1986. This rate is based on the number of total recordable cases per 100 full time workers or 200,000 hours worked.

The Days Away From Work Incidence Rate for 1987 averaged 1.08 per 200,000 hours worked; the same rate as for 1986. The ratio of workers to the Number of Days Away From Work injuries during 1987 averaged 92 per injury, compared to 90 per injury in 1986. One death among petroleum workers was reported in 1987 for every 12,713 employees, as compared to one death for every 21,936 workers employed in 1986.

The total figures for each company are shown in the following tables under the "ALL FUNCTIONS" heading. Each company is listed numerically by identification number throughout the tabulations. The key to this identification system is found at the end of the report.

NOTE: Company participation in the API Annual Survey is voluntary and fluctuates from year to year.

Additional copies of this summary may be obtained by contacting:

American Petroleum Institute
Publications & Distribution Section
1220 L Street, N.W.
Washington, D.C. 20005
(202) 682-8375

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

1		2	3	4			5						6		
				Recordable Cases			Extent and Outcome of Injury and Illness						Incidence Rates		
				a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
								Lost Workday Cases							
Function	Function Key[1]	Average Number of Employees	Hours Worked Thousands	Injuries	Illnesses	Total	Fatalities	Total Lost Workday Cases	Cases Involving Days Away From Work	Number of Days Away From Work	Number of Days of Restricted Activity	Non Fatal Cases Without Lost Workdays	Total Cases	Fatal plus Days Away From Work Cases	Lost Workdays Days Away From Work
Exploration	a	6,243	12,780	51	3	54	1	29	23	184	48	24	0.85	0.38	2.88
Production	b	29,217	62,077	950	29	979	0	431	299	7,091	1,862	548	3.15	0.96	22.85
E&P-Not Sep[2]	ab	17,376	35,031	451	15	466	1	195	156	2,943	532	270	2.66	0.90	16.80
E&P Subtotal		52,836	109,888	1,452	47	1,499	2	655	478	10,218	2,442	842	2.73	0.87	18.60
Gas Processing	c	5,665	11,386	196	3	199	1	48	31	485	284	150	3.50	0.56	8.52
Drilling	d	1,316	2,667	105	2	107	0	41	34	896	229	66	8.02	2.55	67.19
Petrochemical Mfg	e	16,455	33,194	885	37	922	0	386	130	3,302	4,202	536	5.56	0.78	19.90
Refining	f	46,214	93,940	3,165	171	3,336	6	1,509	698	17,904	13,728	1,821	7.10	1.50	38.12
Marketing-Whole.	g	17,604	35,085	601	25	626	2	359	313	4,681	476	265	3.57	1.80	26.68
Marketing-Retail	h	17,019	32,511	722	4	726	1	338	241	5,036	774	387	4.47	1.49	30.98
Mrkt. Not Sep[3]	gh	6,581	13,323	261	4	265	0	163	100	1,408	1,010	102	3.98	1.50	21.14
Mrkt. Subtotal		41,204	80,919	1,584	33	1,617	3	860	654	11,125	2,260	754	4.00	1.62	27.50

Incidence Rates (Column 6) are calculated as follows:

Column 6(j) = $\frac{\text{Column 5(c)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$

Column 6(k) = $\frac{\text{Column 5(d) + 5(f)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$

Column 6(l) = $\frac{\text{Column 5(g)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

1		2	3	4			5						6		
				Recordable Cases			Extent and Outcome of Injury and Illness						Incidence Rates		
				a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
								Lost Workday Cases							
Function	Function Key[1]	Average Number of Employees	Hours Worked Thousands	Injuries	Illnesses	Total	Fatalities	Total Lost Workday Cases	Cases Involving Days Away From Work	Number of Days Away From Work	Number of Days of Restricted Activity	Non Fatal Cases Without Lost Workdays	Total Cases	Fatal plus Days Away From Work Cases	Lost Workdays Days Away From Work
Pipeline-Liquid	i	4,929	9,526	229	8	237	0	85	67	1,525	237	152	4.98	1.41	32.02
Pipeline-Gas	j	19,295	37,759	870	37	907	1	375	343	5,818	2,378	531	4.80	1.82	30.82
Pipeline-Not Sep[4]	ij	7,323	16,938	229	5	234	1	79	49	1,142	313	154	2.76	0.59	13.48
Pipeline-Subtotal		31,547	64,223	1,328	50	1,378	2	539	459	8,485	2,928	837	4.29	1.44	26.42
Marine-Tanker	k	599	2,811	42	1	43	0	30	30	858	0	13	3.06	2.13	61.05
Marine-Inland	l	237	818	7	0	7	1	3	1	1	3	3	1.71	0.49	0.24
Marine-Not Sep[5]	kl	475	1,714	22	0	22	0	8	6	126	12	14	2.57	0.70	14.70
Marine-Subtotal		1,311	5,343	71	1	72	1	41	37	985	15	30	2.70	1.42	36.87
Research & Dev.	m	9,121	17,751	197	22	219	0	46	22	220	743	173	2.47	0.25	2.48
General Services	n	4,431	8,912	151	14	165	0	81	51	416	692	84	3.70	1.14	9.34
Admin.,Eng.,Other	o	44,163	88,500	502	45	547	5	284	175	3,000	1,279	258	1.24	0.41	6.78
Total		254,263	516,723	9,636	425	10,061	20	4,490	2,769	57,036	28,802	5,551	3.89	1.08	22.08

Incidence Rates (Column 6) are calculated as follows:

$$\text{Column 6(j)} = \frac{\text{Column 5(c)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(k)} = \frac{\text{Column 5(d) + 5(f)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(l)} = \frac{\text{Column 5(g)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$$

[1]Keyed to definitions outlined in the API Fire and Safety Data System User's Manual.
[2]Exploration and Production data unable to be separated into Exploration or Production functions.
[3]Marketing data unable to be separated into Wholesale or Retail functions.
[4]Pipeline data unable to be separated into Liquid or Gas functions.
[5]Marine data unable to be separated into Tanker or Inland functions.

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

The following code will indicate the functions for which each company reported:

a - Exploration	g - Marketing - Wholesale	k - Marine - Tanker
b - Production	h - Marketing - Retail	l - Marine - Inland
(ab) - Exploration & Production-Not Sep.	(gh) - Marketing-Not Separated	(kl) - Marine-Not Separated
c - Gas Processing	i - Pipeline - Liquid	m - Research & Development
d - Drilling	j - Pipeline - Gas	n - General Services
e - Petrochemical Manufacturing	(ij) - Pipeline-Not Separated	o - Administration, Engineering & Other
f - Refining		

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Away From Work	Function
							Lost Workday Cases								
									ALL FUNCTIONS						
Total	254,263	516,723	9,636	425	10,061	20	4,490	2,769	57,036	28,802	5,551	3.89	1.08	22.08	
00002	4,476	8,613	299	5	304	1	117	103	1,603	1,442	186	7.06	2.41	37.22	j
00003	48	96	0	0	0	0	0	0	0	0		0.00	0.00	0.00	go
00005	41	90	2	0	2	0	1	0	16	0	1	4.44	0.00	35.56	cjo
00006	133	275	17	9	26	0	5	3	37	65	21	18.91	2.18	26.91	f
00010	36	73	1	0	1	0	1	1	3	0		2.74	2.74	8.22	j
00011	3,080	6,054	226	6	232	0	111	45	1,040	984	121	7.66	1.49	34.36	(ab)ef(gh)(ij)mo
00013	15,295	29,335	704	21	725	1	243	174	4,112	637	481	4.94	1.19	28.03	(ab)fgh(ij)(kl)mno
00015	30	66	3	0	3	0	1	1	4	0	2	9.09	3.03	12.12	g
00017	650	1,270	35	0	35	0	16	16	265	0	19	5.51	2.52	41.73	i
00019	479	887	12	0	12	0	7	7	124	0	5	2.71	1.58	27.96	(ab)
00020	32	59	4	0	4	0	1	1	4	4	3	13.56	3.39	13.56	f
00022	82	184	1	0	1	0	1	1	7	0		1.09	1.09	7.61	ado
00023	2,730	5,789	88	0	88	0	24	24	305	0	64	3.04	0.83	10.54	(ab)cef(ij)o
00024	20,995	46,243	928	47	975	6	542	429	10,842	2,431	427	4.22	1.88	46.89	abcfgh(ij)o
00025	52	106	5	0	5	0	0	0	0	0	5	9.43	0.00	0.00	o
00026	60	133	8	0	8	0	1	1	2	10	7	12.03	1.50	3.01	fgo
00027	3,956	8,017	86	1	87	2	31	26	396	122	54	2.17	0.70	9.88	(ab)co
00029	658	1,366	17	0	17	0	7	7	91	0	10	2.49	1.02	13.32	i
00030	1,190	2,183	58	1	59	0	23	23	330	0	36	5.41	2.11	30.23	j
00031	3,320	7,105	131	3	134	0	48	48	780	132	86	3.77	1.35	21.96	j
00032	14,181	30,490	251	5	256	1	85	21	356	568	170	1.68	0.14	2.34	abcfgh(ij)lmno
00034	85	174	11	0	11	0	7	7	124	0	4	12.64	8.05	142.53	fo

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ALL FUNCTIONS (continued)															
00035	816	1,570	22	0	22	0	3	3	68	0	19	2.80	0.38	8.66	(ab)c
00037	3,358	6,282	48	4	52	0	16	16	603	404	36	1.66	0.51	19.20	j
00042	2,367	4,926	33	8	41	0	20	4	61	597	21	1.66	0.16	2.48	mno
00043	467	942	32	0	32	0	12	12	348	0	20	6.79	2.55	73.89	fi
00045	38	76	0	0	0	0	0	0	0	0		0.00	0.00	0.00	a
00046	262	484	12	1	13	0	10	3	84	63	3	5.37	1.24	34.71	f
00048	33	64	3	0	3	0	1	1	10	0	2	9.38	3.13	31.25	bc
00049	196	527	28	0	28	0	13	13	175	0	15	10.63	4.93	66.41	fg
00053	125	311	12	0	12	0	2	2	11	0	10	7.72	1.29	7.07	f
00054	1,664	3,414	123	2	125	0	48	48	476	18	77	7.32	2.81	27.89	j
00055	124	244	17	0	17	0	4	4	101	0	13	13.93	3.28	82.79	i
00057	41	88	1	0	1	0	1	1	1	0		2.27	2.27	2.27	c
00058	1,651	3,436	32	0	32	0	17	17	452	154	15	1.86	0.99	26.31	abcfgh(ij)mo
00060	305	561	7	0	7	0	2	0	0	21	5	2.50	0.00	0.00	(ij)
00062	74	141	4	0	4	0	4	4	62	0		5.67	5.67	87.94	abo
00064	3,866	8,013	273	0	273	0	142	74	676	475	131	6.81	1.85	16.87	hjo
00065	8,552	16,734	307	8	315	0	125	85	2,012	577	190	3.76	1.02	24.05	abcdfgimno
00070	207	422	8	0	8	0	0	0	0	0	8	3.79	0.00	0.00	ac(gh)(ij)no
00074	508	977	55	0	55	0	26	14	408	164	29	11.26	2.87	83.52	bjno
00075	745	1,663	27	0	27	0	24	9	117	118	3	3.25	1.08	14.07	bfgo
00077	41	74	1	0	1	0	0	0	0	0	1	2.70	0.00	0.00	bo
00079	369	683	25	0	25	1	14	12	139	249	10	7.32	3.81	40.70	f
00083	129	279	5	0	5	0	3	3	45	0	2	3.58	2.15	32.26	ij
00090	17,838	37,104	427	22	449	1	183	24	682	1,920	265	2.42	0.13	3.68	(ab)cef(gh)(ij)mno
00091	301	583	6	1	7	0	3	3	170	0	4	2.40	1.03	58.32	i
00092	36	75	3	0	3	0	1	1	5	0	2	8.00	2.67	13.33	i
00093	56	102	2	0	2	0	0	0	0	0	2	3.92	0.00	0.00	io
00094	15	26	0	0	0	0	0	0	0	0		0.00	0.00	0.00	jo
00095	1,913	3,904	88	0	88	0	65	9	262	708	23	4.51	0.46	13.42	o
00097	298	609	21	0	21	0	16	14	254	63	5	6.90	4.60	83.42	bfo
00099	29,816	58,003	928	159	1,087	1	449	151	2,624	4,673	637	3.75	0.52	9.05	abcdefghimno
00100	105	206	2	0	2	0	0	0	0	0	2	1.94	0.00	0.00	cgo
00101	123	282	14	0	14	0	14	14	72	0		9.93	9.93	51.06	fgh
00102	371	718	6	0	6	0	1	1	2	0	5	1.67	0.28	0.56	ab(gh)no
00103	28	66	1	0	1	0	1	1	5	0		3.03	3.03	15.15	gn

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Lost Workday Cases: Number of Days Away From Work	h. Lost Workday Cases: Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Workdays Days Away From Work	Function
ALL FUNCTIONS (continued)															
00106	28,293	56,587	1,053	29	1,082	2	486	219	3,594	3,924	594	3.82	0.78	12.70	abefgiklmo
00107	10,995	23,877	421	34	455	0	248	223	4,648	829	207	3.81	1.87	38.93	(ab)ef(gh)(ij)klmo
00108	6,239	13,350	188	0	188	1	137	114	3,142	201	50	2.82	1.72	47.07	(ab)cfghio
00109	28,243	57,206	916	20	936	2	396	221	3,758	2,118	538	3.27	0.78	13.14	abcdefg(ij)(kl)mo
00111	336	396	60	1	61	0	13	13	428	0	48	30.81	6.57	216.16	i
00113	213	423	23	0	23	0	9	8	685	43	14	10.87	3.78	323.88	abdgino
00116	154	321	4	0	4	0	4	4	65	0		2.49	2.49	40.50	f
00117	225	412	18	0	18	0	6	6	44	0	12	8.74	2.91	21.36	h
00118	11,355	22,616	444	6	450	0	209	81	1,925	2,611	241	3.98	0.72	17.02	(ab)cf(gh)i(kl)mo
00120	1,911	3,589	62	0	62	0	29	29	635	96	33	3.46	1.62	35.39	j
00121	350	890	14	0	14	0	11	11	414	0	3	3.15	2.47	93.03	f
00123	1,072	2,117	39	0	39	0	8	8	118	127	31	3.68	0.76	11.15	cf(ij)
00124	209	430	5	0	5	0	5	0	0	19		2.33	0.00	0.00	j
00125	135	264	0	0	0	0	0	0	0	0		0.00	0.00	0.00	bo
00127	6,704	13,909	387	0	387	1	187	116	2,455	902	199	5.56	1.68	35.30	befgmno
00138	77	157	7	0	7	0	3	3	3	0	4	8.92	3.82	3.82	fg
00139	665	1,382	42	1	43	0	27	27	1,015	442	16	6.22	3.91	146.89	f
00140	839	1,746	15	2	17	0	10	10	164	10	7	1.95	1.15	18.79	abgo
00143	18	36	0	0	0	0	0	0	0	0		0.00	0.00	0.00	abo
00148	370	739	13	1	14	0	6	6	376	64	8	3.79	1.62	101.76	f
00151	1,380	2,530	47	22	69	0	42	42	720	90	27	5.45	3.32	58.92	j
00152	1,282	2,538	60	0	60	0	32	32	0	0	28	4.73	2.52	0.00	abdfgino
00173	273	576	10	0	10	0	2	1	34	3	8	3.47	0.35	11.81	f
00176	110	246	4	0	4	0	2	0	0	47	2	3.25	0.00	0.00	f
00179	559	1,162	14	0	14	0	4	4	108	0	10	2.41	0.69	18.59	abdo
00186	265	590	36	0	36	0	5	5	72	100	31	12.20	1.69	24.41	f
00187	275	572	66	3	69	0	42	32	764	140	27	24.13	11.19	267.13	f
00188	15	32	6	0	6	0	6	6	21	0		37.50	37.50	131.25	f
00191	457	922	5	0	5	0	1	1	11	10	4	1.08	0.22	2.39	abo
00192	250	56	41	3	44	0	16	16	230	9	28	157.14	57.14	821.43	f
00200	38	76	0	0	0	0	0	0	0	0		0.00	0.00	0.00	c
00201	23	48	0	0	0	0	0	0	0	0		0.00	0.00	0.00	cj
00202	720	1,434	40	0	40	0	8	8	426	323	32	5.58	1.12	59.41	e
00203	576	982	43	0	43	0	8	5	90	10	35	8.76	1.02	18.33	(ab)fg(ij)o
00204	988	1,936	52	0	52	0	19	20	542	85	33	5.37	2.07	55.99	j

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Workday Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Lost Workday Cases: Number of Days Away From Work	h. Lost Workday Cases: Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Workdays Days Away From Work	Function
ALL FUNCTIONS (continued)															
00205	14	30	0	0	0	0	0	0	0	0		0.00	0.00	0.00	c
00206	68	75	0	0	0	0	0	0	0	0		0.00	0.00	0.00	fgilno
00207	37	63	17	0	17	0	5	5	27	0	12	53.97	15.87	85.71	f
00208	83	211	24	0	24	0	12	12	156	0	12	22.75	11.37	147.87	hno
EXPLORATION															
Total	6,243	12,780	51	3	54	1	29	23	184	48	24	0.85	0.38	2.88	
00022	26	49	1	0	1	0	1	1	7	0		4.08	4.08	28.57	
00024	918	1,909	7	0	7	1	4	4	17	0	2	0.73	0.52	1.78	
00032	513	1,358	1	0	1	0	1	1	4	0		0.15	0.15	0.59	
00045	38	76	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00058	145	302	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00062	21	40	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00065	438	810	2	0	2	0	1	1	1	0	1	0.49	0.25	0.25	
00070	2	4	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00099	1,695	3,301	29	2	31	0	16	10	116	47	15	1.88	0.61	7.03	
00102	59	114	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00106	1,346	2,691	6	1	7	0	2	2	17	0	5	0.52	0.15	1.26	
00109	709	1,437	4	0	4	0	3	3	20	1	1	0.56	0.42	2.78	
00113	2	4	1	0	1	0	1	1	2	0		50.00	50.00	100.00	
00140	116	241	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00143	1	2	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00152	11	22	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00179	150	312	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00191	53	108	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
PRODUCTION															
Total	29,217	62,077	950	29	979	0	431	299	7,091	1,862	548	3.15	0.96	22.85	
00024	6,217	15,801	203	2	205	0	130	129	2,657	55	75	2.59	1.63	33.63	
00032	1,746	3,608	22	0	22	0	8	2	73	124	14	1.22	0.11	4.05	
00048	27	53	3	0	3	0	1	1	10	0	2	11.32	3.77	37.74	
00058	149	310	4	0	4	0	2	2	42	0	2	2.58	1.29	27.10	
00062	29	55	4	0	4	0	4	4	62	0		14.55	14.55	225.45	
00065	2,309	4,971	109	4	113	0	45	41	1,436	142	68	4.55	1.65	57.78	
00074	3	9	0	0	0	0	0	0	0	0		0.00	0.00	0.00	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Workdays Days Away From Work	Function
PRODUCTION (continued)															
00075	35	75	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00077	27	48	1	0	1	0	0	0	0	0	1	4.17	0.00	0.00	
00097	18	46	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00099	5,136	10,172	124	3	127	0	47	19	606	359	80	2.50	0.37	11.92	
00102	148	287	6	0	6	0	1	1	2	0	5	4.18	0.70	1.39	
00106	4,803	9,605	91	1	92	0	31	30	1,025	112	61	1.92	0.62	21.34	
00109	7,484	14,805	340	17	357	0	144	52	856	1,032	213	4.82	0.70	11.56	
00113	30	63	4	0	4	0	1	1	24	28	3	12.70	3.17	76.19	
00125	77	152	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00127	105	214	11	0	11	0	4	4	36	0	7	10.28	3.74	33.64	
00140	482	1,003	13	2	15	0	9	9	159	0	6	2.99	1.79	31.70	
00143	3	6	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00152	37	74	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00179	180	374	11	0	11	0	3	3	92	0	8	5.88	1.60	49.20	
00191	172	346	4	0	4	0	1	1	11	10	3	2.31	0.58	6.36	
EXPLORATION AND PRODUCTION-NOT SEPARATED[2]															
Total	17,376	35,031	451	15	466	1	195	156	2,943	532	270	2.66	0.90	16.80	
00011	450	902	7	0	7	0	3	0	0	19	4	1.55	0.00	0.00	
00013	313	625	10	0	10	0	5	5	11	0	5	3.20	1.60	3.52	
00019	479	887	12	0	12	0	7	7	124	0	5	2.71	1.58	27.96	
00023	502	1,039	30	0	30	0	12	12	188	0	18	5.77	2.31	36.19	
00027	1,620	3,279	39	1	40	1	17	15	180	105	22	2.44	0.98	10.98	
00035	676	1,304	9	0	9	0	2	2	58	0	7	1.38	0.31	8.90	
00090	4,643	9,653	117	10	127	0	46	12	257	391	81	2.63	0.25	5.32	
00107	4,044	8,069	132	4	136	0	71	71	1,424	17	65	3.37	1.76	35.30	
00108	1,960	4,297	1	0	1	0	0	0	0	0	1	0.05	0.00	0.00	
00118	2,594	4,825	91	0	91	0	30	30	672	0	61	3.77	1.24	27.85	
00203	95	151	3	0	3	0	2	2	29	0	1	3.97	2.65	38.41	
GAS PROCESSING															
Total	5,665	11,386	196	3	199	1	48	31	485	284	150	3.50	0.56	8.52	
00005	24	53	2	0	2	0	1	0	16	0	1	7.55	0.00	60.38	
00023	229	471	23	0	23	0	5	5	41	0	18	9.77	2.12	17.41	
00024	907	1,844	44	3	47	0	11	5	123	174	36	5.10	0.54	13.34	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	d. Fatalities	Extent and Outcome of Injury and Illness: Lost Workday Cases e. Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
GAS PROCESSING (continued)															
00027	749	1,507	32	0	32	1	6	5	80	8	25	4.25	0.80	10.62	
00032	436	932	8	0	8	0	5	0	0	33	3	1.72	0.00	0.00	
00035	140	266	13	0	13	0	1	1	10	0	12	9.77	0.75	7.52	
00048	6	11	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00057	41	88	1	0	1	0	1	1	1	0		2.27	2.27	2.27	
00058	46	95	1	0	1	0	1	1	32	0		2.11	2.11	67.37	
00065	178	350	10	0	10	0	2	2	100	10	8	5.71	1.14	57.14	
00070	95	198	8	0	8	0	0	0	0	0	8	8.06	0.00	0.00	
00090	281	585	1	0	1	0	0	0	0	0	1	0.34	0.00	0.00	
00099	974	1,877	17	0	17	0	1	0	0	15	16	1.81	0.00	0.00	
00100	81	161	2	0	2	0	0	0	0	0	2	2.48	0.00	0.00	
00108	180	353	3	0	3	0	3	3	24	0		1.70	1.70	13.60	
00109	951	1,932	21	0	21	0	8	5	8	34	13	2.17	0.52	0.83	
00118	164	305	6	0	6	0	3	3	50	10	3	3.93	1.97	32.79	
00123	127	244	4	0	4	0	0	0	0	0	4	3.28	0.00	0.00	
00200	38	76	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00201	4	8	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00205	14	30	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
DRILLING															
Total	1,316	2,667	105	2	107	0	41	34	896	229	66	8.02	2.55	67.19	
00022	5	14	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00065	86	172	7	0	7	0	3	3	12	0	4	8.14	3.49	13.95	
00099	527	1,080	13	2	15	0	8	3	60	197	7	2.78	0.56	11.11	
00109	486	967	63	0	63	0	21	19	169	17	42	12.77	3.85	34.25	
00113	70	128	17	0	17	0	6	6	639	15	11	26.56	9.38	998.44	
00152	87	172	4	0	4	0	2	2	0	0	2	4.65	2.33	0.00	
00179	55	114	1	0	1	0	1	1	16	0		1.75	1.75	28.07	
PETROCHEMICAL MANUFACTURING															
Total	16,455	33,194	885	37	922	0	386	130	3,302	4,202	536	5.56	0.78	19.90	
00011	461	979	40	0	40	0	21	3	10	130	19	8.17	0.61	2.04	
00023	155	340	5	0	5	0	0	0	0	0	5	2.94	0.00	0.00	
00090	4,121	8,574	112	4	116	0	57	5	298	837	59	2.71	0.12	6.95	
00099	2,808	5,112	169	28	197	0	82	13	449	1,244	115	7.71	0.51	17.57	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
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Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Lost Workday Cases: Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
PETROCHEMICAL MANUFACTURING (continued)															
00106	3,376	6,752	226	4	230	0	100	19	482	982	130	6.81	0.56	14.28	
00107	22	44	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00109	1,820	3,696	83	1	84	0	23	15	294	109	61	4.55	0.81	15.91	
00127	2,972	6,263	210	0	210	0	95	67	1,343	577	115	6.71	2.14	42.89	
00202	720	1,434	40	0	40	0	8	8	426	323	32	5.58	1.12	59.41	
REFINING															
Total	46,214	93,940	3,165	171	3,336	6	1,509	698	17,904	13,728	1,821	7.10	1.50	38.12	
00006	133	275	17	9	26	0	5	3	37	65	21	18.91	2.18	26.91	
00011	766	1,610	109	5	114	0	49	9	348	612	65	14.16	1.12	43.23	
00013	1,595	3,430	176	14	190	0	66	61	1,330	17	124	11.08	3.56	77.55	
00020	32	59	4	0	4	0	1	1	4	4	3	13.56	3.39	13.56	
00023	600	1,304	15	0	15	0	1	1	8	0	14	2.30	0.15	1.23	
00024	7,404	15,098	501	29	530	1	273	178	5,038	2,115	256	7.02	2.37	66.74	
00026	30	70	8	0	8	0	1	1	2	10	7	22.86	2.86	5.71	
00032	1,720	3,542	96	1	97	0	30	2	59	196	67	5.48	0.11	3.33	
00034	43	94	8	0	8	0	5	5	68	0	3	17.02	10.64	144.68	
00043	412	832	29	0	29	0	12	12	348	0	17	6.97	2.88	83.65	
00046	262	484	12	1	13	0	10	3	84	63	3	5.37	1.24	34.71	
00049	177	472	28	0	28	0	13	13	175	0	15	11.86	5.51	74.15	
00053	125	311	12	0	12	0	2	2	11	0	10	7.72	1.29	7.07	
00058	631	1,313	18	0	18	0	11	11	373	64	7	2.74	1.68	56.82	
00065	1,779	3,530	103	1	104	0	41	5	116	385	63	5.89	0.28	6.57	
00075	372	884	23	0	23	0	20	5	64	118	3	5.20	1.13	14.48	
00079	369	683	25	0	25	1	14	12	139	249	10	7.32	3.81	40.70	
00090	2,529	5,262	109	2	111	1	43	4	114	404	67	4.22	0.19	4.33	
00097	170	334	19	0	19	0	15	13	251	63	4	11.38	7.78	150.30	
00099	6,448	12,553	391	52	443	0	188	26	459	2,445	255	7.06	0.41	7.31	
00101	19	42	6	0	6	0	6	6	32	0		28.57	28.57	152.38	
00106	4,891	9,781	459	16	475	1	218	57	1,111	2,409	256	9.71	1.19	22.72	
00107	2,778	5,790	145	27	172	0	77	54	1,439	637	95	5.94	1.87	49.71	
00108	669	1,354	13	0	13	0	13	4	259	147		1.92	0.59	38.26	
00109	4,327	8,772	215	0	215	1	101	42	1,348	819	113	4.90	0.98	30.73	
00116	154	321	4	0	4	0	4	4	65	0		2.49	2.49	40.50	
00118	2,585	5,375	169	6	175	0	80	12	716	1,644	95	6.51	0.45	26.64	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
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REFINING (continued)															
00121	350	890	14	0	14	0	11	11	414	0	3	3.15	2.47	93.03	
00123	345	720	12	0	12	0	0	0	0	127	12	3.33	0.00	0.00	
00127	1,689	3,503	147	0	147	1	80	38	913	320	66	8.39	2.23	52.13	
00138	71	142	6	0	6	0	3	3	3	0	3	8.45	4.23	4.23	
00139	665	1,382	42	1	43	0	27	27	1,015	442	16	6.22	3.91	146.89	
00148	370	739	13	1	14	0	6	6	376	64	8	3.79	1.62	101.76	
00152	147	290	3	0	3	0	0	0	0	0	3	2.07	0.00	0.00	
00173	273	576	10	0	10	0	2	1	34	3	8	3.47	0.35	11.81	
00176	110	246	4	0	4	0	2	0	0	47	2	3.25	0.00	0.00	
00186	265	590	36	0	36	0	5	5	72	100	31	12.20	1.69	24.41	
00187	275	572	66	3	69	0	42	32	764	140	27	24.13	11.19	267.13	
00188	15	32	6	0	6	0	6	6	21	0		37.50	37.50	131.25	
00192	250	56	41	3	44	0	16	16	230	9	28	157.14	57.14	821.43	
00203	295	523	34	0	34	0	5	2	37	10	29	13.00	0.76	14.15	
00206	37	41	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00207	37	63	17	0	17	0	5	5	27	0	12	53.97	15.87	85.71	
MARKETING-WHOLESALE															
Total	17,604	35,085	601	25	626	2	359	313	4,681	476	265	3.57	1.80	26.68	
00003	12	24	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00013	2,679	4,649	134	3	137	0	50	25	743	174	87	5.89	1.08	31.96	
00015	30	66	3	0	3	0	1	1	4	0	2	9.09	3.03	12.12	
00024	3,287	6,836	113	12	125	0	85	79	2,421	70	40	3.66	2.31	70.83	
00026	9	19	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00032	376	740	7	0	7	0	5	3	8	21	2	1.89	0.81	2.16	
00049	19	55	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00058	41	85	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00065	898	1,756	27	1	28	0	16	16	245	0	12	3.19	1.82	27.90	
00075	92	195	3	0	3	0	3	3	51	0		3.08	3.08	52.31	
00099	2,423	5,024	65	9	74	0	41	34	538	100	33	2.95	1.35	21.42	
00100	7	13	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00101	70	160	7	0	7	0	7	7	7	0		8.75	8.75	8.75	
00103	23	56	1	0	1	0	1	1	5	0		3.57	3.57	17.86	
00106	2,001	4,002	106	0	106	1	66	66	0	0	39	5.30	3.35	0.00	
00108	517	1,027	41	0	41	1	24	24	268	19	16	7.98	4.87	52.19	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
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MARKETING-WHOLESALE (continued)															
00109	4,563	9,250	64	0	64	0	48	43	270	87	16	1.38	0.93	5.84	
00113	8	17	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00127	245	512	9	0	9	0	5	4	121	5	4	3.52	1.56	47.27	
00138	6	15	1	0	1	0	0	0	0	0	1	13.33	0.00	0.00	
00140	19	40	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00152	260	515	18	0	18	0	7	7	0	0	11	6.99	2.72	0.00	
00203	17	27	2	0	2	0	0	0	0	0	2	14.81	0.00	0.00	
00206	2	2	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
MARKETING-RETAIL															
Total	17,019	32,511	722	4	726	1	338	241	5,036	774	387	4.47	1.49	30.98	
00013	7,089	12,221	261	2	263	1	76	53	1,256	280	186	4.30	0.88	20.55	
00024	742	1,543	32	0	32	0	27	26	343	7	5	4.15	3.37	44.46	
00032	3,235	6,187	36	0	36	0	9	4	55	32	27	1.16	0.13	1.78	
00058	288	600	4	0	4	0	1	1	5	0	3	1.33	0.33	1.67	
00064	2,348	4,856	211	0	211	0	110	56	580	396	101	8.69	2.31	23.89	
00099	352	734	21	2	23	0	6	6	94	24	17	6.27	1.63	25.61	
00101	34	80	1	0	1	0	1	1	33	0		2.50	2.50	82.50	
00108	2,650	5,762	129	0	129	0	97	83	2,591	35	32	4.48	2.88	89.93	
00117	225	412	18	0	18	0	6	6	44	0	12	8.74	2.91	21.36	
00208	56	116	9	0	9	0	5	5	35	0	4	15.52	8.62	60.34	
MARKETING-NOT SEPARATED[3]															
Total	6,581	13,323	261	4	265	0	163	100	1,408	1,010	102	3.98	1.50	21.14	
00011	744	1,332	61	0	61	0	36	32	677	213	25	9.16	4.80	101.65	
00070	10	20	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00090	1,848	3,844	42	2	44	0	21	1	3	180	23	2.29	0.05	0.16	
00102	4	8	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00107	2,138	4,285	80	2	82	0	63	63	704	0	19	3.83	2.94	32.86	
00118	1,837	3,834	78	0	78	0	43	4	24	617	35	4.07	0.21	1.25	
PIPELINE-LIQUID															
Total	4,929	9,526	229	8	237	0	85	67	1,525	237	152	4.98	1.41	32.02	
00017	650	1,270	35	0	35	0	16	16	265	0	19	5.51	2.52	41.73	
00029	658	1,366	17	0	17	0	7	7	91	0	10	2.49	1.02	13.32	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
PIPELINE-LIQUID (continued)															
00043	55	110	3	0	3	0	0	0	0	0	3	5.45	0.00	0.00	
00055	124	244	17	0	17	0	4	4	101	0	13	13.93	3.28	82.79	
00065	409	780	18	0	18	0	7	7	69	0	11	4.62	1.79	17.69	
00083	110	238	3	0	3	0	1	1	4	0	2	2.52	0.84	3.36	
00091	301	583	6	1	7	0	3	3	170	0	4	2.40	1.03	58.32	
00092	36	75	3	0	3	0	1	1	5	0	2	8.00	2.67	13.33	
00093	34	62	2	0	2	0	0	0	0	0	2	6.45	0.00	0.00	
00099	1,052	2,107	25	4	29	0	15	6	67	122	14	2.75	0.57	6.36	
00106	688	1,376	24	2	26	0	8	6	179	19	18	3.78	0.87	26.02	
00108	13	27	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00111	336	396	60	1	61	0	13	13	428	0	48	30.81	6.57	216.16	
00113	49	102	1	0	1	0	1	0	20	0		1.96	0.00	39.22	
00118	382	730	15	0	15	0	9	3	126	96	6	4.11	0.82	34.52	
00152	29	57	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00206	3	3	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
PIPELINE-GAS															
Total	19,295	37,759	870	37	907	1	375	343	5,818	2,378	531	4.80	1.82	30.82	
00002	4,476	8,613	299	5	304	1	117	103	1,603	1,442	186	7.06	2.41	37.22	
00005	14	31	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00010	36	73	1	0	1	0	1	1	3	0		2.74	2.74	8.22	
00030	1,190	2,183	58	1	59	0	23	23	330	0	36	5.41	2.11	30.23	
00031	3,320	7,105	131	3	134	0	48	48	780	132	86	3.77	1.35	21.96	
00037	3,358	6,282	48	4	52	0	16	16	603	404	36	1.66	0.51	19.20	
00054	1,664	3,414	123	2	125	0	48	48	476	18	77	7.32	2.81	27.89	
00064	610	1,299	36	0	36	0	22	9	80	61	14	5.54	1.39	12.32	
00074	91	175	6	0	6	0	3	2	5	31	3	6.86	2.29	5.71	
00083	19	41	2	0	2	0	2	2	41	0		9.76	9.76	200.00	
00094	10	18	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00120	1,911	3,589	62	0	62	0	29	29	635	96	33	3.46	1.62	35.39	
00124	209	430	5	0	5	0	5	0	0	19		2.33	0.00	0.00	
00151	1,380	2,530	47	22	69	0	42	42	720	90	27	5.45	3.32	56.92	
00201	19	40	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00204	988	1,936	52	0	52	0	19	20	542	85	33	5.37	2.07	55.99	
PIPELINE-NOT SEPARATED[4]															
Total	7,323	16,938	229	5	234	1	79	49	1,142	313	154	2.76	0.59	13.48	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	Recordable Cases b. Illnesses	Recordable Cases c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
PIPELINE-NOT SEPARATED (continued)															
00011	89	180	4	1	5	0	1	0	0	10	4	5.56	0.00	0.00	
00013	929	2,166	52	1	53	0	16	6	151	48	37	4.89	0.55	13.94	
00023	46	101	2	0	2	0	0	0	0	0	2	3.96	0.00	0.00	
00024	1,040	2,214	15	1	16	0	7	7	230	2	9	1.45	0.63	20.78	
00032	1,556	4,688	44	0	44	0	17	5	116	121	27	1.88	0.21	4.95	
00058	111	231	1	0	1	0	1	1	0	87		0.87	0.87	0.00	
00060	305	561	7	0	7	0	2	0	0	21	5	2.50	0.00	0.00	
00070	10	20	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00090	577	1,201	9	2	11	0	4	0	0	21	7	1.83	0.00	0.00	
00107	491	984	19	0	19	0	7	6	153	3	12	3.86	1.22	31.10	
00109	1,490	3,301	49	0	49	1	15	15	350	0	33	2.97	0.97	21.21	
00123	600	1,153	23	0	23	0	8	8	118	0	15	3.99	1.39	20.47	
00203	79	138	4	0	4	0	1	1	24	0	3	5.80	1.45	34.78	
MARINE-TANKER															
Total	599	2,811	42	1	43	0	30	30	858	0	13	3.06	2.13	61.05	
00106	192	388	4	0	4	0	3	3	3	0	1	2.06	1.55	1.55	
00107	407	2,423	38	1	39	0	27	27	855	0	12	3.22	2.23	70.57	
MARINE-INLAND															
Total	237	818	7	0	7	1	3	1	1	3	3	1.71	0.49	0.24	
00032	71	377	5	0	5	1	2	0	0	3	2	2.65	0.53	0.00	
00106	84	167	1	0	1	0	1	1	1	0		1.20	1.20	1.20	
00107	80	272	1	0	1	0	0	0	0	0	1	0.74	0.00	0.00	
00206	2	2	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
MARINE-NOT SEPARATED[5]															
Total	475	1,714	22	0	22	0	8	6	126	12	14	2.57	0.70	14.70	
00013	347	1,451	20	0	20	0	8	6	126	12	12	2.76	0.83	17.37	
00109	70	142	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00118	58	121	2	0	2	0	0	0	0	0	2	3.31	0.00	0.00	
RESEARCH AND DEVELOPEMENT															
Total	9,121	17,751	197	22	219	0	46	22	220	743	173	2.47	0.25	2.48	
00011	75	160	1	0	1	0	0	0	0	0	1	1.25	0.00	0.00	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Workday Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Workdays Days Away From Work	Function
RESEARCH AND DEVELOPEMENT (continued)															
00013	222	460	6	0	6	0	1	0	0	73	5	2.61	0.00	0.00	
00032	757	1,236	10	2	12	0	1	0	0	1	11	1.94	0.00	0.00	
00042	1,130	2,348	10	5	15	0	6	2	10	108	9	1.28	0.17	0.85	
00058	14	29	2	0	2	0	1	1	0	3	1	13.79	6.90	0.00	
00065	311	559	9	0	9	0	0	0	0	0	9	3.22	0.00	0.00	
00090	742	1,543	17	2	19	0	3	0	0	15	16	2.46	0.00	0.00	
00099	1,814	3,408	37	13	50	0	6	6	10	47	44	2.93	0.35	0.59	
00106	1,921	3,843	53	0	53	0	13	3	62	225	40	2.76	0.16	3.23	
00107	234	404	4	0	4	0	2	1	71	172	2	1.98	0.50	35.15	
00109	767	1,557	18	0	18	0	3	3	5	1	15	2.31	0.39	0.64	
00118	842	1,585	23	0	23	0	8	4	27	98	15	2.90	0.50	3.41	
00127	292	619	7	0	7	0	2	2	35	0	5	2.26	0.65	11.31	
GENERAL SERVICES															
Total	4,431	8,912	151	14	165	0	81	51	416	692	84	3.70	1.14	9.34	
00013	98	190	3	0	3	0	0	0	0	0	3	3.16	0.00	0.00	
00032	618	1,319	13	1	14	0	4	2	4	25	10	2.12	0.30	0.61	
00042	365	764	21	3	24	0	13	2	51	488	11	6.28	0.52	13.35	
00065	371	668	18	1	19	0	6	6	26	26	13	5.69	1.80	7.78	
00070	80	160	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00074	187	363	21	0	21	0	10	5	199	51	11	11.57	2.75	109.64	
00090	572	1,190	14	0	14	0	8	0	0	57	6	2.35	0.00	0.00	
00099	436	836	10	9	19	0	11	7	8	45	8	4.55	1.67	1.91	
00102	18	35	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00103	5	10	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00113	7	14	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00127	1,260	2,516	3	0	3	0	1	1	7	0	2	0.24	0.08	0.56	
00152	397	787	33	0	33	0	21	21	0	0	12	8.39	5.34	0.00	
00206	15	17	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00208	2	43	15	0	15	0	7	7	121	0	8	69.77	32.56	562.79	
ADMINISTRATION, ENGINEERING, AND OTHER															
Total	44,163	88,500	502	45	547	5	284	175	3,000	1,279	258	1.24	0.41	6.78	
00003	36	72	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00005	3	6	0	0	0	0	0	0	0	0		0.00	0.00	0.00	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	d. Fatalities	Extent and Outcome of Injury and Illness e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Work-days	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost work days Days Away From Work	Function
ADMINISTRATION, ENGINEERING, AND OTHER (continued)															
00011	495	891	4	0	4	0	1	1	5	0	3	0.90	0.22	1.12	
00013	2,023	4,143	42	1	43	0	21	18	495	33	22	2.08	0.87	23.90	
00022	51	121	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00023	1,198	2,534	13	0	13	0	6	6	68	0	7	1.03	0.47	5.37	
00024	480	998	13	0	13	4	5	1	13	8	4	2.61	1.00	2.61	
00025	52	106	5	0	5	0	0	0	0	0	5	9.43	0.00	0.00	
00026	21	44	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00027	1,587	3,231	15	0	15	0	8	6	136	9	7	0.93	0.37	8.42	
00032	3,153	6,503	9	1	10	0	3	2	37	12	7	0.31	0.06	1.14	
00034	42	80	3	0	3	0	2	2	56	0	1	7.50	5.00	140.00	
00042	872	1,814	2	0	2	0	1	0	0	1	1	0.22	0.00	0.00	
00058	226	471	2	0	2	0	0	0	0	0	2	0.85	0.00	0.00	
00062	24	46	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00064	908	1,858	26	0	26	0	10	9	16	18	16	2.80	0.97	1.72	
00065	1,773	3,138	4	1	5	0	4	4	7	14	1	0.32	0.25	0.45	
00070	10	20	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00074	227	430	28	0	28	0	13	7	204	82	15	13.02	3.26	94.88	
00075	246	509	1	0	1	0	1	1	2	0		0.39	0.39	0.79	
00077	14	26	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00090	2,525	5,252	6	0	6	0	1	2	10	15	5	0.23	0.08	0.38	
00093	22	40	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00094	5	8	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00095	1,913	3,904	88	0	88	0	65	9	262	708	23	4.51	0.46	13.42	
00097	110	229	2	0	2	0	1	1	3	0	1	1.75	0.87	2.62	
00099	6,151	11,799	27	35	62	1	28	21	217	28	33	1.05	0.37	3.68	
00100	17	32	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00102	142	274	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00106	8,991	17,982	83	5	88	0	44	32	714	177	44	0.98	0.36	7.94	
00107	801	1,606	2	0	2	0	1	1	2	0	1	0.25	0.12	0.25	
00108	250	530	1	0	1	0	0	0	0	0	1	0.38	0.00	0.00	
00109	5,576	11,327	59	2	61	0	30	24	438	18	31	1.08	0.42	7.73	
00113	47	95	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00118	2,893	5,841	60	0	60	0	36	25	310	146	24	2.05	0.86	10.61	
00125	58	112	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00127	141	282	0	0	0	0	0	0	0	0		0.00	0.00	0.00	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ADMINISTRATION, ENGINEERING, AND OTHER (continued)															
00140	222	462	2	0	2	0	1	1	5	10	1	0.87	0.43	2.16	
00143	14	28	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00152	314	621	2	0	2	0	2	2	0	0		0.64	0.64	0.00	
00179	174	362	2	0	2	0	0	0	0	0	2	1.10	0.00	0.00	
00191	232	468	1	0	1	0	0	0	0	0	1	0.43	0.00	0.00	
00203	90	143	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00206	9	10	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00208	25	52	0	0	0	0	0	0	0	0		0.00	0.00	0.00	

Offshore Data

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES
OFFSHORE FUNCTIONS

1		2	3	4			5						6		
				Recordable Cases			Extent and Outcome of Injury and Illness						Incidence Rates		
				a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
								Lost Workday Cases							
Function	Function Key[1]	Average Number of Employees	Hours Worked Thousands	Injuries	Illnesses	Total	Fatalities	Total Lost Workday Cases	Cases Involving Days Away From Work	Number of Days Away From Work	Number of Days of Restricted Activity	Non Fatal Cases Without Lost Workdays	Total Cases	Fatal plus Days Away From Work Cases	Lost Workdays Days Away From Work
Off. Exploration	a	609	1,201	21	0	21	0	12	7	92	43	9	3.50	1.17	15.32
Off. Production	b	3,821	8,346	147	1	148	0	72	58	1,639	118	76	3.55	1.39	39.28
Off. Drilling	d	836	6,806	118	2	120	0	56	28	823	364	64	3.53	0.82	24.18
Comb. Not Sep.[2]	abd	402	824	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00
Total Offshore		5,668	17,177	286	3	289	0	140	93	2,554	525	149	3.36	1.08	29.74

Incidence Rates (Column 6) are calculated as follows:

$$\text{Column 6(j)} = \frac{\text{Column 5(c)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(k)} = \frac{\text{Column 5(d)} + \text{5(f)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(l)} = \frac{\text{Column 5(g)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$$

[1] Keyed to definitions outlined in the API Fire and Safety Data System User's Manual.
[2] Exploration, Production and Drilling data unable to be separated as listed.

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES
OFFSHORE FUNCTIONS

The following code will indicate the functions for which each company reported:

a - Exploration b - Production d - Drilling abd - Comb. Not. Sep.

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	d. Fatalities	Extent and Outcome of Injury and Illness e. Lost Workday Cases: Total Lost Workday Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Workdays Away From Work	Function
ALL FUNCTIONS															
Total	5,668	17,177	286	3	289	0	140	93	2,554	525	149	3.36	1.08	29.74	
00010	10	22	0	0	0	0	0	0	0	0		0.00	0.00	0.00	a
00058	1,014	2,214	49	0	49	0	20	12	420	52	29	4.43	1.08	37.94	bd
00065	401	1,416	34	1	35	0	23	23	795	0	12	4.94	3.25	112.29	bd
00099	2,888	10,861	147	2	149	0	68	29	728	473	81	2.74	0.53	13.41	abd
00102	74	157	4	0	4	0	1	1	2	0	3	5.10	1.27	2.55	b
00107	244	489	14	0	14	0	10	10	159	0	4	5.73	4.09	65.03	b
00108	402	824	0	0	0	0	0	0	0	0		0.00	0.00	0.00	(abd)
00118	430	768	26	0	26	0	14	14	342	0	12	6.77	3.65	89.06	b
00179	190	395	12	0	12	0	4	4	108	0	8	6.08	2.03	54.68	bd
00191	15	31	0	0	0	0	0	0	0	0		0.00	0.00	0.00	ab
OFF. EXPLORATION															
Total	609	1,201	21	0	21	0	12	7	92	43	9	3.50	1.17	15.32	
00010	10	22	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00099	585	1,150	21	0	21	0	12	7	92	43	9	3.65	1.22	16.00	
00191	14	29	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
OFF. PRODUCTION															
Total	3,821	8,346	147	1	148	0	72	58	1,639	118	76	3.55	1.39	39.28	
00058	615	1,343	12	0	12	0	3	1	7	23	9	1.79	0.15	1.04	
00065	395	1,404	34	1	35	0	23	23	795	0	12	4.99	3.28	113.25	
00099	1,910	3,867	46	0	46	0	18	6	242	95	28	2.38	0.31	12.52	
00102	74	157	4	0	4	0	1	1	2	0	3	5.10	1.27	2.55	
00107	244	489	14	0	14	0	10	10	159	0	4	5.73	4.09	65.03	
00118	430	768	26	0	26	0	14	14	342	0	12	6.77	3.65	89.06	
00179	152	316	11	0	11	0	3	3	92	0	8	6.96	1.90	58.23	
00191	1	2	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
OFF. DRILLING															
Total	836	6,806	118	2	120	0	56	28	823	364	64	3.53	0.82	24.18	
00058	399	871	37	0	37	0	17	11	413	29	20	8.50	2.53	94.83	
00065	6	12	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00099	393	5,844	80	2	82	0	38	16	394	335	44	2.81	0.55	13.48	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1987
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES
OFFSHORE FUNCTIONS

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Workday Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
OFF. DRILLING (continued)															
00179	38	79	1	0	1	0	1	1	16	0		2.53	2.53	40.51	
COMBINATION OF EXPLORATION, PRODUCTION AND DRILLING[2]															
Total	402	824	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	
00108	402	824	0	0	0	0	0	0	0	0		0.00	0.00	0.00	

Fatality Information

FIFTY-FIFTH ANNUAL SUMMARY OF FATAL INJURIES AS REPORTED TO THE AMERICAN PETROLEUM INSTITUTE BY THE PETROLEUM INDUSTRY FOR 1987

ON-DUTY FATAL INJURIES

Ninety-six oil and gas companies and their subsidiaries, employing 254,263 workers, reported 20 on-duty fatal accidents during 1987. This is equivalent to one fatality for every 12,713 workers employed, as compared to one fatality for every 21,936 workers in 1986.

Ten companies submitted detailed information on the causes of the 20 fatal on-duty accidents.

The American Petroleum Institute has published information on fatal accidents in the petroleum industry since 1933. Each incident is described in a brief narrative format and is intended to provide information which could be used to avoid the occurrence of similar accidents.

ADMINISTRATION, ENGINEERING, AND OTHER

3/20/87 - Airplane Crash

One employee was killed when the aircraft lost an engine and the pilot attempted unsuccessfully to land in a field.

10/27/87 - Electrocution

A journeyman lineman was electrocuted while stringing a primary conductor along a roadway. The new conductor made accidental contact with an energized 7.2 KV line.

12/7/87 - Airplane Crash

Four employees were killed when a commercial airplane crashed due to unknown causes. The cause of the crash is under investigation.

EXPLORATION

10/1/87 - Drowning

A contractor was working at the 40 meter level in a mine. The contractor had loaded a wheelbarrow load of ore into a skip bucket and gave the hoistman instructions to raise it. Shortly afterwards, a second miner returned and found no signs of the employee. The contractor is believed to have lost his balance and fell into a mine shaft and drowned.

GAS PROCESSING

2/13/87 - Fire/Explosion

A meter specialist was fatally burned when he entered a gas cloud in an attempt to stop a release of ethane from a ruptured disc on a metering instrument and the gas ignited.

MARINE - INLAND

4/1/87 - Drowning

A deckhand was working on the stern of a boat assisting in the lifting of a storage box when he slipped, fell overboard, and drowned.

NOTE: The company noted the following preventive measures to avoid the occurrence of a similar accident:

a. Lifejackets should be worn at all times on deck.

b. Guard chains were installed 6' in front of the stern across the boat.

c. The number of life rings were increased from two to four (two were equipped with strobe lights).

d. Voice activated speakers were installed on deck and in the wheelhouse.

MARKETING - RETAIL

10/29/87 - Gunshot

A service station cashier was fatally shot during an attempted robbery.

MARKETING - WHOLESALE

4/2/87 - Motor Vehicle Accident

A transport driver was fatally injured when his vehicle overturned and struck a tree. The driver lost control of his vehicle after swerving to avoid a parked car on the roadway.

PETROCHEMICALS MANUFACTURING

12/14/87 - Inert Atmosphere

An inspector died when he entered a rail tank car containing an oxygen deficient atmosphere. The tank car apparently was returned with an oxygen deficient atmosphere after being unloaded with nitrogen pressure.

NOTE: The company noted the following preventive measures to avoid the occurrence of a similar accident:

a. Implement procedures for atmosphere testing to require all alarm modes to be operational.

b. Use forced air to ventilate all tank cars prior to testing and entry.

c. Provide rigging for rapid rescue.

d. Upgrade lighting.

e. Require supervisory sign-off on work permits prior to entry.

PIPELINE - GAS

6/19/87 - Motor Vehicle Accident

An employee was killed when he attempted to pass a vehicle on the left and collided with a truck head on traveling in the opposite direction.

NOTE: The company noted that this accident could have been avoided if traffic laws were observed and the employee did not attempt to pass the vehicle in a no passing zone.

PRODUCTION

4/12/87 - Electrocution

An electrician was killed when he de-energized the wrong line while working on an overhead 42,000 volt power line. The employee isolated the wrong leg without using hot work tools and without following hot work procedures. The employee also failed to use appropriate test equipment before beginning work.

NOTE: The company noted that this accident could have been prevented if the employee had followed established hot work and testing procedures prior to beginning work.

4/21/87 - Motor Vehicle Accident

An employee was fatally injured when he was thrown from his vehicle after being struck broadside at an intersection by a pickup truck.

NOTE: The company reported that the employee was not wearing seat belts at the time of the accident.

9/2/87 - Fire/Explosion

An employee was fatally burned while flushing the contents of a coalescer with water and an explosion occurred from inside the vessel. The cause of the explosion is under investigation.

REFINING

2/26/87 - Caught In or Between

An employee was fatally injured when a channel head that had been removed from a heat exhanger tipped over and crushed him.

NOTE: The company noted that this type of accident may have been averted if the channel head was secured with a sling to a crane or gallion. Setting the channel head on one of the side entry flanges caused the unit to tip over.

4/3/87 - Fall

An employee was working on a flow meter located twelve feet above the ground. He leaned off the ladder too far and fell to his death.

NOTE: The company noted that the ladder was secured, however it was not tight enough to prevent excessive movement. Ladders should be tightly secured and employees should move ladders rather than lean from them.

9/12/87 - Toxic Gas or Liquid

A sulfur plant operator died from exposure to hydrogen sulfide gas while drawing down the liquid level in an acid gas knock-out drum.

10/20/87 - Fire/Explosion

A foreman was fatally injured when a fire box exploded. The foreman and operator were going through normal start-up procedures for the boiler. The boiler fire box was purged for 10 minutes with air and the gas valves were opened. When the foreman pushed the igniter button, the fire box exploded.

NOTE: A company investigation of this incident revealed that a fire eye mechanism failure occurred causing the safety shut off valve on the fuel gas piping to open. This allowed gas to fill the firebox before the igniter button was activated.

LIST OF RESPONDENTS

1987 OCCUPATIONAL INJURY, ILLNESS, AND FATALITY REPORT

	KEY	COMPANY
1.	10	Alabama - Tenn. Natural Gas Co.
2.	106	Amoco Oil Corp.
3.	13	Ashland Petroleum Corp.
4.	191	BHP Petroleum (A)
5.	15	BP North America Petroleum Inc.
6.	17	Buckeye Pipeline Co.
7.	19	Cabot Energy Corp.
8.	20	Calcasieu Refining Co.
9.	22	Celsius Energy Co.
10.	24	Chevron U.S.A. Inc.
11.	25	Cheyenne Light, Fuel & Power Co.
12.	26	Cibro Petroleum Products Inc.
13.	27	Cities Services Oil & Gas Corp.
14.	187	Clark Oil & Refining Corp.
15.	186	Coastal Refining & Marketing Inc.
16.	29	Colonial Pipeline Co.
17.	30	Colorado Interstate Gas Co.
18.	6	Colorado Refining Co.
19.	31	Columbia Gas Transmission Corp.
20.	32	Conoco Inc.
21.	34	Cross Oil & Refining Co.
22.	36	E. E. Fogelson
23.	37	El Paso Natural Gas Co.
24.	205	Enogex Products Corp.

LIST OF RESPONDENTS (Continued)

	KEY	COMPANY
25.	35	Enserch Exploration Inc.
26.	143	Equity Oil Co.
27.	42	Exxon Research & Engineering Co.
28.	43	Farmland Industries Inc.
29.	11	Fina Oil & Chemical Co.
30.	45	Fuelco
31.	206	GAMXX Energy Inc.
32.	46	Golden West Refining Co.
33.	48	Hewit & Dougherty
34.	49	Hunt Refining Co.
35.	53	Indiana Farm Bureau Coop. Assn. Inc.
36.	208	J. D. Streett & Co. Inc.
37.	54	KN Energy Inc.
38.	55	Kaneb Pipe Line Co.
39.	57	Kentucky Hydrocarbon Co.
40.	58	Kerr McGee Corp.
41.	2	KPL Gas Service
42.	60	Lakehead Pipe Line Co. Inc.
43.	62	Lario Oil & Gas Co.
44.	173	Lion Oil Co.
45.	201	Llano Inc.
46.	5	Lomita Gasoline Co.
47.	64	Lone Star Gas Co.
48.	65	Marathon Oil Co.

LIST OF RESPONDENTS (Continued)

	KEY	COMPANY
49.	74	Mountain Fuel Resources Inc.
50.	75	Murphy Oil USA Inc.
51.	77	National Helium Corp.
52.	79	Navajo Refining Co.
53.	203	NPRA
54.	83	Ohio Oil Gathering Corp.
55.	151	Peoples Natural Gas Co.
56.	90	Phillips Petroleum Co.
57.	91	Plantation Pipe Line Co.
58.	92	Portal Pipe Line Co.
59.	93	Portland Pipe Line Corp.
60.	192	Powerline Oil Co.
61.	176	Pride Refining Inc.
62.	94	Producers Gas Equities Inc.
63.	95	Public Service Co. of Colorado
64.	202	Quantum Chemical Corp.
65.	97	Rock Island Refining Corp.
66.	207	San Joaquin Refining Co. Inc.
67.	140	Santa Fe Energy Co.
68.	99	Shell Oil Co.
69.	100	Sid Richardson Carbon & Gasoline Co.
70.	101	Somerset Refinery Inc.
71.	102	Sonat Exploration Co.
72.	103	South Kentucky Purchasing Co.

LIST OF RESPONDENTS (Continued)

	KEY	COMPANY
73.	138	Southland Oil Co.
74.	148	Southwestern Refining Co.
75.	107	Sun Company Inc.
76.	3	Tauber Oil Co.
77.	108	Tenneco Oil Co.
78.	152	Tesoro Petroleum Corp.
79.	109	Texaco Inc.
80.	111	Texas Eastern Products & Pipe Line Co.
81.	139	TOSCO Corp.
82.	179	Transco Exploration Co.
83.	113	True
84.	116	U.S. Oil & Refining Co.
85.	117	Union LP Gas System Inc.
86.	118	UNOCAL
87.	23	Union Pacific Resources Inc.
88.	120	United Gas Pipe Line Co.
89.	121	United Refining Co.
90.	123	Valero Energy Corp.
91.	188	Vulcan Refining Co.
92.	70	Western Gas Processors Inc.
93.	124	Western Gas Supply Co.
94.	125	WEXPRO Co.
95.	204	Williams Natural Gas Co.
96.	127	Witco Chemical Corp.

A2575-44 19/89

Summary of Occupational Injuries, Illnesses, and Fatalities In the Petroleum Industry

As Reported to the American Petroleum Institute, Covering Petroleum and Petrochemical Operations of Reporting Companies for 1988

MAY 1989

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

Summary of Occupational Injuries, Illnesses, and Fatalities In the Petroleum Industry

As Reported to the American Petroleum Institute, Covering Petroleum and Petrochemical Operations of Reporting Companies for 1988

Safety and Fire Protection Department

MAY 1989

American
Petroleum
Institute

SUMMARY OF OCCUPATIONAL INJURIES, ILLNESSES, AND FATALITIES IN THE PETROLEUM INDUSTRY FOR 1988

Participants in the 1988 summary were asked to submit data according to the Bureau of Labor Statistics (BLS) Recordkeeping Guidelines for Occupational Injuries and Illnesses - September 1986 Edition. The survey provides incidence rates per 200,000 hours worked on the same basis as those reported by the BLS.

This summary report is based on data submitted to the American Petroleum Institute (API) by 113 oil and gas companies employing over 263,000 persons with a work experience of over 547,000 hours. The **Total Case Incidence Rate** was **3.83** for 1988, as compared to 3.89 in 1987. This rate is based on the number of total recordable cases per 100 full-time workers or 200,000 hours worked.

The **Days Away From Work Incidence Rate** for 1988 averaged **1.01** per 200,000 hours worked, compared to 1.08 for 1987. The ratio of workers to the **Number of Days Away From Work** injuries during 1988 averaged **96** per injury, compared to 92 per injury in 1987. One death among petroleum workers was reported in 1988 for every **9,748** employees, compared to one death for every 12,713 employees in 1987.

NOTE: Company participation in the API annual statistical survey is voluntary and fluctuates from year to year.

Additional copies of this report may be obtained by contacting the API Publications & Distribution Section at (202) 682-8375.

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

1		2	3	4			5						6		
				Recordable Cases			Extent and Outcome of Injury and Illness						Incidence Rates		
				a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
								Lost Workday Cases							
Function	Function Key[1]	Average Number of Employees	Hours Worked Thousands	Injuries	Illnesses	Total	Fatalities	Total Lost Workday Cases	Cases Involving Days Away From Work	Number of Days Away From Work	Number of Days of Restricted Activity	Non Fatal Cases Without Lost Workdays	Total Cases	Fatal plus Days Away From Work Cases	Lost Workdays Days Away From Work
Exploration	a	4,844	9,713	43	2	45	0	24	22	598	132	21	0.93	0.45	12.31
Production	b	26,769	57,885	846	15	861	3	340	233	6,635	2,056	518	2.97	0.82	22.92
E&P-Not Sep[2]	ab	19,948	40,869	495	7	502	0	220	154	2,547	900	282	2.46	0.75	12.46
E&P Subtotal		51,561	108,467	1,384	24	1,408	3	584	409	9,780	3,088	821	2.60	0.76	18.03
Gas Processing	c	5,363	11,346	176	11	187	1	66	57	1,495	317	120	3.30	1.02	26.35
Drilling	d	942	2,026	100	0	100	2	45	42	1,347	296	53	9.87	4.34	132.97
Petrochemical Mfg	e	21,605	44,782	662	39	701	2	341	71	1,763	4,303	358	3.13	0.33	7.87
Refining	f	43,065	94,433	2,856	222	3,078	12	1,369	630	17,498	13,797	1,697	6.52	1.36	37.06
Marketing-Whole.	g	16,855	34,290	694	15	709	1	374	267	4,573	660	334	4.14	1.56	26.67
Marketing-Retail	h	35,288	69,518	1,908	5	1,913	1	872	481	11,793	5,255	1,040	5.50	1.39	33.93
Mrkt. Not Sep[3]	gh	4,338	8,920	164	1	165	0	98	60	1,075	219	67	3.70	1.35	24.10
Mrkt. Subtotal		56,481	112,728	2,766	21	2,787	2	1,344	808	17,441	6,134	1,441	4.94	1.44	30.94

Incidence Rates (Column 6) are calculated as follows:

$$\text{Column 6(j)} = \frac{\text{Column 5(c)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(k)} = \frac{\text{Column 5(d)} + \text{5(f)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(l)} = \frac{\text{Column 5(g)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$$

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

1		2	3	4			5						6		
				Recordable Cases			Extent and Outcome of Injury and Illness						Incidence Rates		
				a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
								Lost Workday Cases							
Function	Function Key[1]	Average Number of Employees	Hours Worked Thousands	Injuries	Illnesses	Total	Fatalities	Total Lost Workday Cases	Cases Involving Days Away From Work	Number of Days Away From Work	Number of Days of Restricted Activity	Non Fatal Cases Without Lost Workdays	Total Cases	Fatal plus Days Away From Work Cases	Lost Workdays Days Away From Work
Pipeline-Liquid	i	8,744	18,095	339	14	353	0	158	134	3,710	1,003	195	3.90	1.48	41.01
Pipeline-Gas	j	22,299	44,355	939	22	961	1	416	310	5,262	3,055	544	4.33	1.40	23.73
Pipeline-Not Sep[4]	ij	7,729	15,807	215	0	215	1	84	59	1,420	414	130	2.72	0.76	17.97
Pipeline-Subtotal		38,772	78,257	1,493	36	1,529	2	658	503	10,392	4,472	869	3.91	1.29	26.56
Marine-Tanker	k	197	394	1	0	1	0	0	0	0	0	1	0.51	0.00	0.00
Marine-Inland	l	496	1,825	23	0	23	1	15	13	433	6	7	2.52	1.53	47.45
Marine-Not Sep[5]	kl	985	3,638	42	0	42	0	29	29	1,038	0	13	2.31	1.59	57.06
Marine-Subtotal		1,678	5,857	66	0	66	1	44	42	1,471	6	21	2.25	1.47	50.23
Research & Dev.	m	6,145	14,882	164	9	173	0	50	55	90	547	123	2.32	0.74	1.21
General Services	n	2,100	4,085	57	1	58	0	19	14	101	108	39	2.84	0.69	4.94
Admin.,Eng.,Other	o	35,486	70,739	366	21	387	2	204	112	1,461	1,524	181	1.09	0.32	4.13
Total		263,198	547,602	10,090	384	10,474	27	4,724	2,743	62,839	34,592	5,723	3.83	1.01	22.95

Incidence Rates (Column 6) are calculated as follows:

$$\text{Column 6(j)} = \frac{\text{Column 5(c)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(k)} = \frac{\text{Column 5(d)} + \text{5(f)} \times 200{,}000}{\text{Column 3} \times 1{,}000} \qquad \text{Column 6(l)} = \frac{\text{Column 5(g)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$$

[1]Keyed to definitions outlined in the API Fire and Safety Data System User's Manual.
[2]Exploration and Production data unable to be separated into Exploration or Production functions.
[3]Marketing data unable to be separated into Wholesale or Retail functions.
[4]Pipeline data unable to be separated into Liquid or Gas functions.
[5]Marine data unable to be separated into Tanker or Inland functions.

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

The following code will indicate the functions for which each company reported:

a - Exploration
b - Production
(ab) - Exploration & Production-Not Sep.
c - Gas Processing
d - Drilling
e - Petrochemical Manufacturing
f - Refining
g - Marketing - Wholesale
h - Marketing - Retail
(gh) - Marketing-Not Separated
i - Pipeline - Liquid
j - Pipeline - Gas
(ij) - Pipeline-Not Separated
k - Marine - Tanker
l - Marine - Inland
(kl) - Marine-Not Separated
m - Research & Development
n - General Services
o - Administration, Engineering & Other

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Lost Workday Cases: Number of Days Away From Work	h. Lost Workday Cases: Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Work-days	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ALL FUNCTIONS															
Total	263,198	547,602	10,090	384	10,474	27	4,724	2,743	62,839	34,592	5,723	3.83	1.01	22.95	
00001	12	27	0	0	0	0	0	0	0	0		0.00	0.00	0.00	c
00003	50	100	0	0	0	0	0	0	0	0		0.00	0.00	0.00	g
00005	3,764	7,541	103	5	108	0	68	67	1,253	46	40	2.86	1.78	33.23	(ab)
00006	140	274	14	1	15	0	8	0	0	35	7	10.95	0.00	0.00	f
00010	36	74	0	0	0	0	0	0	0	0		0.00	0.00	0.00	j
00013	15,372	30,859	917	28	945	2	370	235	5,602	1,318	573	6.12	1.54	36.31	(ab)fghilmno
00015	30	66	6	0	6	0	4	0	23	0	2	18.18	0.00	69.70	g
00016	2,750	6,062	50	0	50	0	6	6	69	0	44	1.65	0.20	2.28	(ab)
00017	650	1,270	21	3	24	0	18	17	127	116	6	3.78	2.68	20.00	i
00019	507	1,042	12	0	12	0	8	8	44	0	4	2.30	1.54	8.45	(ab)
00020	32	62	3	0	3	0	0	0	0	0	3	9.68	0.00	0.00	f
00021	275	826	10	1	11	0	1	1	20	30	10	2.66	0.24	4.84	i
00022	92	151	1	0	1	0	1	1	15	15		1.32	1.32	19.87	ado
00024	20,326	45,233	820	108	928	1	480	371	8,931	2,649	447	4.10	1.64	39.49	abcfgh(ij)o
00025	48	98	1	0	1	0	0	0	0	0	1	2.04	0.00	0.00	o
00026	60	133	5	0	5	0	1	1	16	0	4	7.52	1.50	24.06	fgo
00027	3,532	7,349	72	1	73	0	32	27	570	135	41	1.99	0.73	15.51	(ab)co
00029	675	1,393	16	0	16	0	8	8	252	189	8	2.30	1.15	36.18	i
00030	1,195	2,261	52	1	53	1	17	17	385	0	35	4.69	1.59	34.06	j
00031	3,283	7,209	123	2	125	0	40	40	886	205	85	3.47	1.11	24.58	j
00032	15,104	31,491	245	1	246	1	90	24	681	1,145	155	1.56	0.16	4.33	(ab)cfgh(ij)(kl)mno
00033	16	36	0	0	0	0	0	0	0	0		0.00	0.00	0.00	i

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Work-days	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ALL FUNCTIONS (continued)															
00034	93	185	15	0	15	0	11	11	79	0	4	16.22	11.89	85.41	fo
00035	811	1,587	20	0	20	0	2	2	18	0	18	2.52	0.25	2.27	(ab)c
00037	3,203	6,352	64	1	65	0	15	15	450	468	50	2.05	0.47	14.17	j
00039	8,274	17,209	212	17	229	0	117	22	354	1,408	112	2.66	0.26	4.11	e
00043	435	1,008	59	4	63	0	22	22	594	111	41	12.50	4.37	117.86	fi
00044	92	156	3	0	3	0	1	1	38	96	2	3.85	1.28	48.72	i
00045	39	80	0	0	0	0	0	0	0	0		0.00	0.00	0.00	a
00046	270	520	17	0	17	0	11	3	96	90	6	6.54	1.15	36.92	f
00047	20,789	41,577	1,307	9	1,316	0	637	241	3,833	5,589	679	6.33	1.16	18.44	fghi
00048	33	66	4	0	4	0	3	3	137	0	1	12.12	9.09	415.15	bc
00053	125	302	21	0	21	0	5	5	219	0	16	13.91	3.31	145.03	f
00054	1,561	3,011	116	0	116	0	50	49	686	35	66	7.71	3.25	45.57	j
00055	123	208	13	1	14	0	5	5	20	1	9	13.46	4.81	19.23	i
00056	4,449	8,600	281	6	287	0	204	118	1,081	1,401	83	6.67	2.74	25.14	j
00057	40	75	2	0	2	0	0	0	0	0	2	5.33	0.00	0.00	c
00058	1,893	3,940	42	0	42	0	15	15	529	0	27	2.13	0.76	26.85	abcfghimo
00060	340	613	11	0	11	0	1	0	0	4	10	3.59	0.00	0.00	(ij)
00062	74	140	1	0	1	0	1	1	26	0		1.43	1.43	37.14	abo
00065	8,790	17,089	273	6	279	0	126	90	1,713	552	153	3.27	1.05	20.05	abcdfgimno
00068	253	506	12	5	17	0	9	4	12	34	8	6.72	1.58	4.74	emo
00071	650	1,135	52	3	55	0	12	12	59	0	43	9.69	2.11	10.40	h
00074	486	922	28	0	28	0	15	14	172	106	13	6.07	3.04	37.31	jno
00075	760	1,696	60	1	61	0	27	8	257	149	34	7.19	0.94	30.31	bfgo
00077	37	76	0	0	0	0	0	0	0	0		0.00	0.00	0.00	bo
00079	368	675	28	0	28	0	14	11	226	40	14	8.30	3.26	66.96	f
00083	125	303	7	0	7	1	3	3	16	0	3	4.62	2.64	10.56	ijl
00085	110	266	16	1	17	0	10	5	8	66	7	12.78	3.76	6.02	f
00086	64	132	1	0	1	0	1	1	4	0		1.52	1.52	6.06	i
00087	165	345	17	1	18	0	8	0	0	35	10	10.43	0.00	0.00	f
00090	17,696	36,811	400	7	407	0	193	30	821	2,416	214	2.21	0.16	4.46	(ab)cefgh(ij)mno
00091	301	565	7	0	7	0	2	2	13	0	5	2.48	0.71	4.60	i
00092	35	73	2	0	2	0	1	1	2	0	1	5.48	2.74	5.48	i
00093	56	101	1	0	1	0	1	1	25	10		1.98	1.98	49.50	io
00094	15	25	1	0	1	0	1	1	7	0		8.00	8.00	56.00	jo
00095	1,596	3,255	72	0	72	0	50	13	199	388	22	4.42	0.80	12.23	o

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
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Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Lost Workday Cases: Number of Days Away From Work	h. Lost Workday Cases: Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Work-days	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ALL FUNCTIONS (continued)															
00099	27,776	54,788	680	39	719	9	306	111	3,905	4,887	404	2.62	0.44	14.25	abcdefghimno
00100	100	197	1	0	1	0	0	0	0	0	1	1.02	0.00	0.00	cgo
00101	126	279	5	0	5	0	5	5	255	0		3.58	3.58	182.80	fgh
00102	365	772	9	0	9	0	5	5	18	0	4	2.33	1.30	4.66	(ab)
00103	29	61	1	0	1	0	1	1	46	0		3.28	3.28	150.82	gn
00106	24,511	51,933	796	27	823	5	430	192	3,645	3,877	388	3.17	0.76	14.04	abefgiklmo
00107	7,012	16,093	357	32	389	1	206	142	4,202	805	182	4.83	1.78	52.22	ef(gh)(ij)(kl)mo
00109	25,830	52,466	725	22	747	5	309	189	4,651	1,507	433	2.85	0.74	17.73	abcdefg(ij)(kl)mo
00111	624	1,351	23	0	23	0	7	7	346	56	16	3.40	1.04	51.22	i
00113	180	448	25	0	25	0	13	12	498	15	12	11.16	5.36	222.32	abdgino
00114	645	1,209	35	0	35	0	8	3	51	138	27	5.79	0.50	8.44	j
00116	166	341	6	0	6	0	6	6	149	0		3.52	3.52	87.39	f
00118	11,097	22,393	422	11	433	1	198	65	1,506	1,910	234	3.87	0.59	13.45	(ab)cef(gh)i(kl)mo
00120	1,932	3,774	39	1	40	0	22	17	428	178	18	2.12	0.90	22.68	j
00121	350	890	8	0	8	0	8	8	348	0		1.80	1.80	78.20	f
00122	490	1,202	17	0	17	0	2	2	134	0	15	2.83	0.33	22.30	ci
00123	1,070	2,328	48	0	48	0	7	7	131	250	41	4.12	0.60	11.25	cf(ij)
00124	202	429	2	0	2	0	0	0	0	0	2	0.93	0.00	0.00	j
00125	156	302	3	0	3	0	2	1	12	10	1	1.99	0.66	7.95	bco
00126	658	1,357	55	4	59	0	29	29	625	65	30	8.70	4.27	92.11	lmo
00127	719	1,643	27	0	27	0	10	10	112	0	17	3.29	1.22	13.63	f(gh)mn
00131	2,683	5,115	102	0	102	0	21	19	600	375	81	3.99	0.74	23.46	j
00137	209	430	14	0	14	0	7	7	310	0	7	6.51	3.26	144.19	f
00138	73	148	9	0	9	0	5	5	53	0	4	12.16	6.76	71.62	efg
00139	667	1,400	125	6	131	0	8	8	270	479	123	18.71	1.14	38.57	b
00143	3	6	0	0	0	0	0	0	0	0		0.00	0.00	0.00	b
00144	1,158	2,425	48	1	49	0	27	27	413	0	22	4.04	2.23	34.06	i
00146	1,015	2,000	23	0	23	0	10	10	116	23	13	2.30	1.00	11.60	bcjo
00158	10	21	0	0	0	0	0	0	0	0		0.00	0.00	0.00	b
00159	150	6,000	0	0	0	0	0	0	0	0		0.00	0.00	0.00	f
00161	25	57	0	0	0	0	0	0	0	0		0.00	0.00	0.00	(ab)
00162	1,375	3,014	50	11	61	0	10	4	141	60	51	4.05	0.27	9.36	j
00164	71	148	5	0	5	0	3	3	172	0	2	6.76	4.05	232.43	i
00175	293	526	35	0	35	0	16	15	155	8	19	13.31	5.70	58.94	f
00176	90	174	10	0	10	0	0	1	0	55	10	11.49	1.15	0.00	f

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Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Work-days	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ALL FUNCTIONS (continued)															
00185	70	202	2	0	2	0	2	2	16	0		1.98	1.98	15.84	f
00187	587	1,200	138	3	141	0	92	75	1,520	200	49	23.50	12.50	253.33	f
00188	23	31	6	0	6	0	6	6	24	0		38.71	38.71	154.84	f
00191	495	1,031	1	0	1	0	0	0	0	0	1	0.19	0.00	0.00	abo
00192	316	680	65	8	73	0	7	7	49	160	66	21.47	2.06	14.41	f
00201	28	58	0	0	0	0	0	0	0	0		0.00	0.00	0.00	cj
00202	687	1,369	25	0	25	0	4	4	92	148	21	3.65	0.58	13.44	e
00204	811	1,587	49	0	49	0	16	16	309	145	33	6.18	2.02	38.94	j
00205	300	557	9	0	9	0	3	3	47	0	6	3.23	1.08	16.88	j
00211	21	50	0	0	0	0	0	0	0	0		0.00	0.00	0.00	i
00215	1,231	2,491	20	0	20	0	4	4	54	4	16	1.61	0.32	4.34	(ab)co
00216	8	17	0	0	0	0	0	0	0	0		0.00	0.00	0.00	j
00217	4,578	9,261	430	6	436	0	182	182	6,855	350	254	9.42	3.93	148.04	fgh
00218	83	187	4	0	4	0	2	1	13	5	2	4.28	1.07	13.90	f
EXPLORATION															
Total	4,844	9,713	43	2	45	0	24	22	598	132	21	0.93	0.45	12.31	
00022	36	42	1	0	1	0	1	1	15	15		4.76	4.76	71.43	
00024	731	1,523	8	1	9	0	4	4	109	11	5	1.18	0.53	14.31	
00045	39	80	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00058	144	301	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00062	21	40	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00065	460	844	5	0	5	0	1	1	7	0	4	1.18	0.24	1.66	
00099	1,521	3,090	20	1	21	0	14	12	446	106	7	1.36	0.78	28.87	
00106	1,186	2,371	6	0	6	0	3	3	20	0	3	0.51	0.25	1.69	
00109	650	1,305	3	0	3	0	1	1	1	0	2	0.46	0.15	0.15	
00113	2	4	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00191	54	113	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
PRODUCTION															
Total	26,769	57,885	846	15	861	3	340	233	6,635	2,056	518	2.97	0.82	22.92	
00024	6,182	15,896	187	2	189	0	105	104	2,090	47	84	2.38	1.31	26.30	
00048	26	52	2	0	2	0	2	2	124	0		7.69	7.69	476.92	
00058	187	389	7	0	7	0	2	2	30	0	5	3.60	1.03	15.42	
00062	29	55	1	0	1	0	1	1	26	0		3.64	3.64	94.55	

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							Lost Workday Cases								
PRODUCTION (continued)															
00065	2,358	5,035	90	2	92	0	46	40	963	82	46	3.65	1.59	38.25	
00075	43	89	4	0	4	0	0	0	0	0	4	8.99	0.00	0.00	
00077	26	53	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00099	4,812	9,961	105	0	105	1	42	12	586	603	62	2.11	0.26	11.77	
00106	4,975	9,951	80	2	82	0	28	22	638	60	54	1.65	0.44	12.82	
00109	7,135	14,327	239	3	242	2	104	41	1,896	778	136	3.38	0.60	26.47	
00113	30	63	3	0	3	0	1	0	0	7	2	9.52	0.00	0.00	
00125	76	152	2	0	2	0	1	1	12	0	1	2.63	1.32	15.79	
00139	667	1,400	125	6	131	0	8	8	270	479	123	18.71	1.14	38.57	
00143	3	6	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00146	13	25	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00158	10	21	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00191	197	410	1	0	1	0	0	0	0	0	1	0.49	0.00	0.00	
EXPLORATION AND PRODUCTION-NOT SEPARATED[2]															
Total	19,948	40,869	495	7	502	0	220	154	2,547	900	282	2.46	0.75	12.46	
00005	3,764	7,541	103	5	108	0	68	67	1,253	46	40	2.86	1.78	33.23	
00013	290	571	18	0	18	0	7	7	76	0	11	6.30	2.45	26.62	
00016	2,750	6,062	50	0	50	0	6	6	69	0	44	1.65	0.20	2.28	
00019	507	1,042	12	0	12	0	8	8	44	0	4	2.30	1.54	8.45	
00027	1,601	3,457	36	0	36	0	17	14	314	15	19	2.08	0.81	18.17	
00032	2,551	5,306	34	0	34	0	15	5	129	264	19	1.28	0.19	4.86	
00035	673	1,325	8	0	8	0	2	2	18	0	6	1.21	0.30	2.72	
00090	4,351	9,050	126	2	128	0	52	16	223	459	76	2.83	0.35	4.93	
00102	365	772	9	0	9	0	5	5	18	0	4	2.33	1.30	4.66	
00118	2,648	4,925	92	0	92	0	37	21	352	113	55	3.74	0.85	14.29	
00161	25	57	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00215	423	761	7	0	7	0	3	3	51	3	4	1.84	0.79	13.40	
GAS PROCESSING															
Total	5,363	11,346	176	11	187	1	66	57	1,495	317	120	3.30	1.02	26.35	
00001	12	27	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00024	864	1,792	23	10	33	0	9	3	144	114	24	3.68	0.33	16.07	
00027	672	1,374	24	1	25	0	12	12	236	65	13	3.64	1.75	34.35	
00032	457	943	5	0	5	1	0	0	0	0	4	1.06	0.21	0.00	

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GAS PROCESSING (continued)															
00035	138	262	12	0	12	0	0	0	0	0	12	9.16	0.00	0.00	
00048	7	14	2	0	2	0	1	1	13	0	1	28.57	14.29	185.71	
00057	40	75	2	0	2	0	0	0	0	0	2	5.33	0.00	0.00	
00058	36	74	2	0	2	0	0	0	0	0	2	5.41	0.00	0.00	
00065	185	359	17	0	17	0	11	11	292	0	6	9.47	6.13	162.67	
00090	294	612	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00099	804	1,704	11	0	11	0	1	0	0	0	10	1.29	0.00	0.00	
00100	75	148	1	0	1	0	0	0	0	0	1	1.35	0.00	0.00	
00109	1,013	2,034	30	0	30	0	17	16	535	7	13	2.95	1.57	52.61	
00118	145	273	11	0	11	0	9	9	46	33	2	8.06	6.59	33.70	
00122	352	923	12	0	12	0	2	2	134	0	10	2.60	0.43	29.04	
00123	125	308	8	0	8	0	2	2	86	87	6	5.19	1.30	55.84	
00125	18	37	1	0	1	0	1	0	0	10		5.41	0.00	0.00	
00146	78	203	6	0	6	0	1	1	9	0	5	5.91	0.99	8.87	
00201	3	6	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00215	45	178	9	0	9	0	0	0	0	1	9	10.11	0.00	0.00	
DRILLING															
Total	942	2,026	100	0	100	2	45	42	1,347	296	53	9.87	4.34	132.97	
00022	6	15	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00065	90	181	3	0	3	0	3	3	21	2		3.31	3.31	23.20	
00099	435	926	18	0	18	0	9	6	330	286	9	3.89	1.30	71.27	
00109	374	751	57	0	57	2	21	21	498	0	34	15.18	6.13	132.62	
00113	37	153	22	0	22	0	12	12	498	8	10	28.76	15.69	650.98	
PETROCHEMICAL MANUFACTURING															
Total	21,605	44,782	662	39	701	2	341	71	1,763	4,303	358	3.13	0.33	7.87	
00039	8,274	17,209	212	17	229	0	117	22	354	1,408	112	2.66	0.26	4.11	
00068	173	345	11	4	15	0	9	4	12	34	6	8.70	2.32	6.96	
00090	4,260	8,861	100	2	102	0	57	3	205	1,051	45	2.30	0.07	4.63	
00099	2,330	4,611	68	11	79	0	35	2	200	630	44	3.43	0.09	8.67	
00106	3,184	6,368	166	3	169	1	86	18	479	754	82	5.31	0.60	15.04	
00107	24	48	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00109	1,683	4,007	35	2	37	0	8	3	19	60	29	1.85	0.15	0.95	
00118	966	1,917	42	0	42	1	24	14	360	218	17	4.38	1.56	37.56	

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PETROCHEMICAL MANUFACTURING (continued)															
00138	24	47	3	0	3	0	1	1	42	0	2	12.77	4.26	178.72	
00202	687	1,369	25	0	25	0	4	4	92	148	21	3.65	0.58	13.44	
REFINING															
Total	43,065	94,433	2,856	222	3,078	12	1,369	630	17,498	13,797	1,697	6.52	1.36	37.06	
00006	140	274	14	1	15	0	8	0	0	35	7	10.95	0.00	0.00	
00013	1,565	3,427	188	12	200	0	63	25	912	435	137	11.67	1.46	53.22	
00020	32	62	3	0	3	0	0	0	0	0	3	9.68	0.00	0.00	
00024	7,310	15,078	455	93	548	0	263	168	4,854	2,381	285	7.27	2.23	64.39	
00026	30	70	5	0	5	0	1	1	16	0	4	14.29	2.86	45.71	
00032	1,730	3,654	82	0	82	0	36	7	232	433	46	4.49	0.38	12.70	
00034	46	96	13	0	13	0	9	9	71	0	4	27.08	18.75	147.92	
00043	378	904	55	4	59	0	22	22	594	111	37	13.05	4.87	131.42	
00046	270	520	17	0	17	0	11	3	96	90	6	6.54	1.15	36.92	
00047	1,843	3,685	162	9	171	0	65	9	136	968	106	9.28	0.49	7.38	
00053	125	302	21	0	21	0	5	5	219	0	16	13.91	3.31	145.03	
00058	631	1,313	15	0	15	0	8	8	134	0	7	2.28	1.22	20.41	
00065	1,789	3,479	90	2	92	0	31	4	176	332	61	5.29	0.23	10.12	
00075	371	882	48	1	49	0	25	6	222	139	24	11.11	1.36	50.34	
00079	368	675	28	0	28	0	14	11	226	40	14	8.30	3.26	66.96	
00085	110	266	16	1	17	0	10	5	8	66	7	12.78	3.76	6.02	
00087	165	345	17	1	18	0	8	0	0	35	10	10.43	0.00	0.00	
00090	2,578	5,363	81	1	82	0	31	4	226	430	51	3.06	0.15	8.43	
00099	6,227	11,900	289	17	306	7	138	25	1,089	2,944	161	5.14	0.54	18.30	
00101	21	41	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00106	4,627	9,253	346	9	355	4	204	77	1,839	2,327	147	7.67	1.75	39.75	
00107	2,803	6,124	201	31	232	1	108	49	2,124	730	123	7.58	1.63	69.37	
00109	4,174	8,381	181	16	197	0	67	23	494	466	130	4.70	0.55	11.79	
00116	166	341	6	0	6	0	6	6	149	0		3.52	3.52	87.39	
00118	2,393	5,324	128	7	135	0	63	8	490	1,040	72	5.07	0.30	18.41	
00121	350	890	8	0	8	0	8	8	348	0		1.80	1.80	78.20	
00123	345	926	11	0	11	0	0	0	0	17	11	2.38	0.00	0.00	
00127	224	454	15	0	15	0	5	5	42	0	10	6.61	2.20	18.50	
00137	209	430	14	0	14	0	7	7	310	0	7	6.51	3.26	144.19	
00138	43	89	5	0	5	0	4	4	11	0	1	11.24	8.99	24.72	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non-Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Workdays Days Away From Work	Function
							REFINING (continued)								
00159	150	6,000	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00175	293	526	35	0	35	0	16	15	155	8	19	13.31	5.70	58.94	
00176	90	174	10	0	10	0	0	1	0	55	10	11.49	1.15	0.00	
00185	70	202	2	0	2	0	2	2	16	0		1.98	1.98	15.84	
00187	587	1,200	138	3	141	0	92	75	1,520	200	49	23.50	12.50	253.33	
00188	23	31	6	0	6	0	6	6	24	0		38.71	38.71	154.84	
00192	316	680	65	8	73	0	7	7	49	160	66	21.47	2.06	14.41	
00217	390	885	82	6	88	0	24	24	703	350	64	19.89	5.42	158.87	
00218	83	187	4	0	4	0	2	1	13	5	2	4.28	1.07	13.90	
							MARKETING-WHOLESALE								
Total	16,855	34,290	694	15	709	1	374	267	4,573	660	334	4.14	1.56	26.67	
00003	50	100	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00013	2,230	4,541	271	6	277	0	109	79	1,042	175	168	12.20	3.48	45.89	
00015	30	66	6	0	6	0	4	0	23	0	2	18.18	0.00	69.70	
00024	3,144	6,539	108	2	110	0	74	68	1,469	73	36	3.36	2.08	44.93	
00026	9	19	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00032	249	483	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00047	1,633	3,267	48	0	48	0	32	18	451	138	16	2.94	1.10	27.61	
00058	45	93	1	0	1	0	0	0	0	0	1	2.15	0.00	0.00	
00065	940	1,847	31	1	32	0	22	22	215	0	10	3.47	2.38	23.28	
00075	91	200	5	0	5	0	1	1	30	0	4	5.00	1.00	30.00	
00090	486	1,011	3	1	4	0	3	1	5	24	1	0.79	0.20	0.99	
00099	2,508	5,196	78	5	83	0	43	36	784	125	40	3.19	1.39	30.18	
00100	8	16	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00101	71	160	5	0	5	0	5	5	255	0		6.25	6.25	318.75	
00103	24	51	1	0	1	0	1	1	46	0		3.92	3.92	180.39	
00106	1,974	3,948	80	0	80	0	43	4		0	37	4.05	0.20	0.00	
00109	3,248	6,522	44	0	44	1	32	27	151	125	11	1.35	0.86	4.63	
00113	8	17	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00138	6	12	1	0	1	0	0	0	0	0	1	16.67	0.00	0.00	
00217	101	202	12	0	12	0	5	5	102	0	7	11.88	4.95	100.99	
							MARKETING-RETAIL								
Total	35,288	69,518	1,908	5	1,913	1	872	481	11,793	5,255	1,040	5.50	1.39	33.93	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
MARKETING-RETAIL (continued)															
00013	7,654	13,889	291	2	293	1	110	72	1,851	381	182	4.22	1.05	26.65	
00024	696	1,447	23	0	23	0	14	14	148	0	9	3.18	1.94	20.46	
00032	3,181	6,654	43	0	43	0	8	3	229	217	35	1.29	0.09	6.88	
00047	16,877	33,753	1,088	0	1,088	0	536	211	3,158	4,474	552	6.45	1.22	18.71	
00058	250	521	11	0	11	0	4	4	75	0	7	4.22	1.54	28.79	
00071	650	1,135	52	3	55	0	12	12	59	0	43	9.69	2.11	10.40	
00090	1,537	3,197	41	0	41	0	26	5	147	180	15	2.56	0.31	9.20	
00099	322	670	23	0	23	0	9	7	76	3	14	6.87	2.09	22.69	
00101	34	78	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00217	4,087	8,174	336	0	336	0	153	153	6,050	0	183	8.22	3.74	148.03	
MARKETING-NOT SEPARATED[3]															
Total	4,338	8,920	164	1	165	0	98	60	1,075	219	67	3.70	1.35	24.10	
00107	2,098	4,230	71	1	72		53	52	863	3	19	3.40	2.46	40.80	
00118	1,833	3,691	81	0	81	0	40	3	142	216	41	4.39	0.16	7.69	
00127	407	999	12	0	12	0	5	5	70	0	7	2.40	1.00	14.01	
PIPELINE-LIQUID															
Total	8,744	18,095	339	14	353	0	158	134	3,710	1,003	195	3.90	1.48	41.01	
00013	905	2,035	59	2	61	0	31	15	840	210	30	6.00	1.47	82.56	
00017	650	1,270	21	3	24	0	18	17	127	116	6	3.78	2.68	20.00	
00021	275	826	10	1	11	0	1	1	20	30	10	2.66	0.24	4.84	
00029	675	1,393	16	0	16	0	8	8	252	189	8	2.30	1.15	36.18	
00033	16	36	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00043	57	104	4	0	4	0	0	0	0	0	4	7.69	0.00	0.00	
00044	92	156	3	0	3	0	1	1	38	96	2	3.85	1.28	48.72	
00047	436	872	9	0	9	0	4	3	88	9	5	2.06	0.69	20.18	
00055	123	208	13	1	14	0	5	5	20	1	9	13.46	4.81	19.23	
00058	56	117	2	0	2	0	1	1	290	0	1	3.42	1.71	495.73	
00065	417	793	13	0	13	0	4	3	10	73	9	3.28	0.76	2.52	
00083	39	84	3	0	3	0	0	0	0	0	3	7.14	0.00	0.00	
00086	64	132	1	0	1	0	1	1	4	0		1.52	1.52	6.06	
00091	301	565	7	0	7	0	2	2	13	0	5	2.48	0.71	4.60	
00092	35	73	2	0	2	0	1	1	2	0	1	5.48	2.74	5.48	
00093	34	61	1	0	1	0	1	1	25	10		3.28	3.28	81.97	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
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Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Workday Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
PIPELINE-LIQUID (continued)															
00099	1,042	2,037	17	1	18	0	6	5	326	58	12	1.77	0.49	32.01	
00106	739	1,477	13	1	14	0	4	3	92	9	10	1.90	0.41	12.46	
00111	624	1,351	23	0	23	0	7	7	346	56	16	3.40	1.04	51.22	
00113	49	102	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00118	317	633	10	0	10	0	4	1	7	81	6	3.16	0.32	2.21	
00122	138	279	5	0	5	0	0	0	0	0	5	3.58	0.00	0.00	
00126	410	868	54	4	58	0	29	29	625	65	29	13.36	6.68	144.01	
00144	1,158	2,425	48	1	49	0	27	27	413	0	22	4.04	2.23	34.06	
00164	71	148	5	0	5	0	3	3	172	0	2	6.76	4.05	232.43	
00211	21	50	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
PIPELINE-GAS															
Total	22,299	44,355	939	22	961	1	416	310	5,262	3,055	544	4.33	1.40	23.73	
00010	36	74	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00030	1,195	2,261	52	1	53	1	17	17	385	0	35	4.69	1.59	34.06	
00031	3,283	7,209	123	2	125	0	40	40	886	205	85	3.47	1.11	24.58	
00037	3,203	6,352	64	1	65	0	15	15	450	468	50	2.05	0.47	14.17	
00054	1,561	3,011	116	0	116	0	50	49	686	35	66	7.71	3.25	45.57	
00056	4,449	8,600	281	6	287	0	204	118	1,081	1,401	83	6.67	2.74	25.14	
00074	85	161	5	0	5	0	3	2	87	27	2	6.21	2.48	108.07	
00083	22	46	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00094	10	18	1	0	1	0	1	1	7	0		11.11	11.11	77.78	
00114	645	1,209	35	0	35	0	8	3	51	138	27	5.79	0.50	8.44	
00120	1,932	3,774	39	1	40	0	22	17	428	178	18	2.12	0.90	22.68	
00124	202	429	2	0	2	0	0	0	0	0	2	0.93	0.00	0.00	
00131	2,683	5,115	102	0	102	0	21	19	600	375	81	3.99	0.74	23.46	
00146	474	869	11	0	11	0	6	6	104	23	5	2.53	1.38	23.94	
00162	1,375	3,014	50	11	61	0	10	4	141	60	51	4.05	0.27	9.36	
00201	25	52	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00204	811	1,587	49	0	49	0	16	16	309	145	33	6.18	2.02	38.94	
00205	300	557	9	0	9	0	3	3	47	0	6	3.23	1.08	16.88	
00216	8	17	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
PIPELINE-NOT SEPARATED[4]															
Total	7,729	15,807	215	0	215	1	84	59	1,420	414	130	2.72	0.76	17.97	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
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Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Lost Workday Cases: Number of Days Away From Work	h. Lost Workday Cases: Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
PIPELINE-NOT SEPARATED (continued)															
00024	1,064	2,261	13	0	13	1	8	7	114	10	4	1.15	0.71	10.08	
00032	2,300	4,914	47	0	47	0	23	4	70	198	24	1.91	0.16	2.85	
00060	340	613	11	0	11	0	1	0	0	4	10	3.59	0.00	0.00	
00090	1,080	2,247	9	0	9	0	4	0	0	45	5	0.80	0.00	0.00	
00107	573	1,148	29	0	29		12	12	175	11	17	5.05	2.09	30.49	
00109	1,772	3,530	77	0	77	0	31	31	1,016	0	46	4.36	1.76	57.56	
00123	600	1,094	29	0	29	0	5	5	45	146	24	5.30	0.91	8.23	
MARINE-TANKER															
Total	197	394	1	0	1	0	0	0	0	0	1	0.51	0.00	0.00	
00106	197	394	1	0	1	0	0	0	0	0	1	0.51	0.00	0.00	
MARINE-INLAND															
Total	496	1,825	23	0	23	1	15	13	433	6	7	2.52	1.53	47.45	
00013	349	1,485	17	0	17	0	11	9	416	6	6	2.29	1.21	56.03	
00083	64	173	4	0	4	1	3	3	16	0		4.62	4.62	18.50	
00106	83	167	2	0	2	0	1	1	1	0	1	2.40	1.20	1.20	
MARINE-NOT SEPARATED[5]															
Total	985	3,638	42	0	42	0	29	29	1,038	0	13	2.31	1.59	57.06	
00032	390	808	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00107	467	2,571	41	0	41		28	28	1,037		13	3.19	2.18	80.67	
00109	102	205	1	0	1	0	1	1	1	0		0.98	0.98	0.98	
00118	26	54	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
RESEARCH AND DEVELOPEMENT															
Total	6,145	14,882	164	9	173	0	50	55	90	547	123	2.32	0.74	1.21	
00013	219	464	10	0	10	0	4	2	3	13	6	4.31	0.86	1.29	
00032	773	1,570	7	1	8	0	1	0	0	5	7	1.02	0.00	0.00	
00058	14	30	1	0	1	0	0	0	0	0	1	6.67	0.00	0.00	
00065	312	562	6	0	6	0	2	2	4	0	4	2.14	0.71	1.42	
00068	25	51	0	1	1	0	0	0	0	0	1	3.92	0.00	0.00	
00090	805	1,675	12	1	13	0	3	0	0	30	10	1.55	0.00	0.00	
00099	1,884	3,535	31	3	34	0	4	4	57	113	30	1.92	0.23	3.22	
00106	186	3,279	28	2	30	0	12	32	5	203	18	1.83	1.95	0.30	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Total Lost Work-day Cases	f. Lost Workday Cases: Cases Involving Days Away From Work	g. Lost Workday Cases: Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Work-days	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
RESEARCH AND DEVELOPEMENT (continued)															
00107	236	383	13	0	13		4			61	9	6.79	0.00	0.00	
00109	809	1,625	27	0	27	0	9	9	9	52	18	3.32	1.11	1.11	
00118	821	1,576	28	1	29	0	11	6	12	70	18	3.68	0.76	1.52	
00126	13	25	1	0	1	0	0	0	0	0	1	8.00	0.00	0.00	
00127	48	107	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
Total	2,100	4,085	57	1	58	0	19	14	101	108	39	2.84	0.69	4.94	
GENERAL SERVICES															
00013	102	193	1	0	1	0	1	1	22	5		1.04	1.04	22.80	
00032	625	1,299	20	0	20	0	5	4	19	7	15	3.08	0.62	2.93	
00065	366	659	12	1	13	0	4	3	21	62	9	3.95	0.91	6.37	
00074	173	336	15	0	15	0	5	5	24	22	10	8.93	2.98	14.29	
00090	372	774	6	0	6	0	2	1	15	2	4	1.55	0.26	3.88	
00099	410	717	3	0	3	0	2	0	0	10	1	0.84	0.00	0.00	
00103	5	10	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00113	7	14	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00127	40	83	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
Total	35,486	70,739	366	21	387	2	204	112	1,461	1,524	181	1.09	0.32	4.13	
ADMINISTRATION, ENGINEERING, AND OTHER															
00013	2,058	4,254	62	6	68	1	34	25	440	93	33	3.20	1.22	20.69	
00022	50	94	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00024	335	697	3	0	3	0	3	3	3	13		0.86	0.86	0.86	
00025	48	98	1	0	1	0	0	0	0	0	1	2.04	0.00	0.00	
00026	21	44	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00027	1,259	2,518	12	0	12	0	3	1	20	55	9	0.95	0.08	1.59	
00032	2,848	5,860	7	0	7	0	2	1	2	21	5	0.24	0.03	0.07	
00034	47	89	2	0	2	0	2	2	8	0		4.49	4.49	17.98	
00058	530	1,102	3	0	3	0	0	0	0	0	3	0.54	0.00	0.00	
00062	24	45	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00065	1,873	3,330	6	0	6	0	2	1	4	1	4	0.36	0.06	0.24	
00068	55	110	1	0	1	0	0	0	0	0	1	1.82	0.00	0.00	
00074	228	425	8	0	8	0	7	7	61	57	1	3.76	3.29	28.71	
00075	255	525	3	0	3	0	1	1	5	10	2	1.14	0.38	1.90	
00077	11	23	0	0	0	0	0	0	0	0		0.00	0.00	0.00	

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	d. Fatalities	Extent and Outcome of Injury and Illness: e. Total Lost Work-day Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Work-days	Incidence Rates: j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ADMINISTRATION, ENGINEERING, AND OTHER (continued)															
00090	1,933	4,021	22	0	22	0	15	0	0	195	7	1.09	0.00	0.00	
00093	22	40	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00094	5	7	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00095	1,596	3,255	72	0	72	0	50	13	199	388	22	4.42	0.80	12.23	
00099	5,481	10,441	17	1	18	1	3	2	11	9	14	0.34	0.06	0.21	
00100	17	33	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00106	7,360	14,725	74	10	84	0	49	32	571	524	35	1.14	0.43	7.76	
00107	811	1,589	2	0	2		1	1	3		1	0.25	0.13	0.38	
00109	4,870	9,779	31	1	32	0	18	16	31	19	14	0.65	0.33	0.63	
00113	47	95	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00118	1,948	4,000	30	3	33	0	10	3	97	139	23	1.65	0.15	4.85	
00125	62	113	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00126	235	464	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00146	450	903	6	0	6	0	3	3	3	0	3	1.33	0.66	0.66	
00191	244	508	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
00215	763	1,552	4	0	4	0	1	1	3	0	3	0.52	0.13	0.39	

1988 Offshore Data

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES
OFFSHORE FUNCTIONS

1		2	3	4			5						6		
				Recordable Cases			Extent and Outcome of Injury and Illness						Incidence Rates		
				a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
								Lost Workday Cases							
Function	Function Key[1]	Average Number of Employees	Hours Worked Thousands	Injuries	Illnesses	Total	Fatalities	Total Lost Workday Cases	Cases Involving Days Away From Work	Number of Days Away From Work	Number of Days of Restricted Activity	Non Fatal Cases Without Lost Workdays	Total Cases	Fatal plus Days Away From Work Cases	Lost Workdays Days Away From Work
Off. Exploration	a	547	1,135	8	1	9	0	7	6	256	49	2	1.59	1.06	45.11
Off. Production	b	3,489	8,904	150	2	152	0	82	68	1,407	147	70	3.41	1.53	31.60
Off. Drilling	d	726	2,369	73	0	73	0	41	38	1,226	286	32	6.16	3.21	103.50
Comb. Not Sep.[2]	abd	390	813	7	2	9	0	6	6	45	0	3	2.21	1.48	11.07
Total Offshore		5,152	13,221	238	5	243	0	136	118	2,934	482	107	3.68	1.79	44.38

Incidence Rates (Column 6) are calculated as follows:

$$\text{Column 6(j)} = \frac{\text{Column 5(c)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$$

$$\text{Column 6(k)} = \frac{\text{Column 5(d)} + \text{5(f)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$$

$$\text{Column 6(l)} = \frac{\text{Column 5(g)} \times 200{,}000}{\text{Column 3} \times 1{,}000}$$

[1] Keyed to definitions outlined in the API Fire and Safety Data System User's Manual.
[2] Exploration, Production and Drilling data unable to be separated as listed.

OCCUPATIONAL INJURIES AND ILLNESSES FOR THE YEAR 1988
COVERING PETROLEUM AND PETROCHEMICAL OPERATIONS OF REPORTING COMPANIES
OFFSHORE FUNCTIONS

The following code will indicate the functions for which each company reported:

a - Exploration b - Production d - Drilling abd - Comb. Not. Sep.

Co. No.	Average Number of Employees	Hours Worked Thousands	Recordable Cases a. Injuries	b. Illnesses	c. Total	Extent and Outcome of Injury and Illness d. Fatalities	e. Lost Workday Cases: Total Lost Workday Cases	f. Cases Involving Days Away From Work	g. Number of Days Away From Work	h. Number of Days of Restricted Activity	i. Non Fatal Cases Without Lost Workdays	Incidence Rates j. Total Cases	k. Fatal plus Days Away From Work Cases	l. Lost Work days Days Away From Work	Function
ALL FUNCTIONS															
Total	5,152	13,221	238	5	243	0	136	118	2,934	482	107	3.68	1.79	44.38	
00005	160	320	7	2	9	0	6	6	45	0	3	5.63	3.75	28.13	(abd)
00016	230	493	0	0	0	0	0	0	0	0		0.00	0.00	0.00	(abd)
00024	191	646	12	0	12	0	10	10	165	0	2	3.72	3.10	51.08	b
00027	145	423	10	0	10	0	7	7	151	0	3	4.73	3.31	71.39	b
00058	789	3,179	83	0	83	0	44	44	1,079	0	39	5.22	2.77	67.88	bd
00065	405	1,396	26	2	28	0	19	19	547	0	9	4.01	2.72	78.37	bd
00099	2,714	5,762	69	1	70	0	35	17	831	482	35	2.43	0.59	28.84	abd
00102	61	145	7	0	7	0	4	4	16	0	3	9.66	5.52	22.07	b
00118	426	792	24	0	24	0	11	11	100	0	13	6.06	2.78	25.25	b
00191	31	65	0	0	0	0	0	0	0	0		0.00	0.00	0.00	ab
OFF. EXPLORATION															
Total	547	1,135	8	1	9	0	7	6	256	49	2	1.59	1.06	45.11	
00099	523	1,085	8	1	9	0	7	6	256	49	2	1.66	1.11	47.19	
00191	24	50	0	0	0	0	0	0	0	0		0.00	0.00	0.00	
OFF. PRODUCTION															
Total	3,489	8,904	150	2	152	0	82	68	1,407	147	70	3.41	1.53	31.60	
00024	191	646	12	0	12	0	10	10	165	0	2	3.72	3.10	51.08	
00027	145	423	10	0	10	0	7	7	151	0	3	4.73	3.31	71.39	
00058	357	1,438	27	0	27	0	12	12	183	0	15	3.76	1.67	25.45	
00065	399	1,383	26	2	28	0	19	19	547	0	9	4.05	2.75	79.10	
00099	1,903	4,062	44	0	44	0	19	5	245	147	25	2.17	0.25	12.06	
00102	61	145	7	0	7	0	4	4	16	0	3	9.66	5.52	22.07	
00118	426	792	24	0	24	0	11	11	100	0	13	6.06	2.78	25.25	
00191	7	15	0	0	0	0	0	0	0	0		0.00	0.00	0.00	

OFF. DRILLING

Total	726	2,369	73	0	73	0	41	38	1,226	286	32	6.16	3.21	103.50
00058	432	1,741	56	0	56	0	32	32	896	0	24	6.43	3.68	102.93
00065	6	13	0	0	0	0	0	0	0	0		0.00	0.00	0.00
00099	288	615	17	0	17	0	9	6	330	286	8	5.53	1.95	107.32

COMBINATION OF EXPLORATION, PRODUCTION AND DRILLING[2]

Total	390	813	7	2	9	0	6	6	45	0	3	2.21	1.48	11.07
00005	160	320	7	2	9	0	6	6	45	0	3	5.63	3.75	28.13
00016	230	493	0	0	0	0	0	0	0	0		0.00	0.00	0.00

1988 Fatality Information

FIFTY-SIXTH ANNUAL SUMMARY OF FATAL INJURIES AS REPORTED TO THE AMERICAN PETROLEUM INSTITUTE BY THE PETROLEUM INDUSTRY FOR 1988

ON-DUTY FATAL INJURIES

113 oil and gas companies and their subsidiaries, employing over 263,000 workers, reported 27 on-duty fatal accidents during 1988. This is equivalent to one fatality for every 9,748 workers employed, as compared to one fatality for every 12,713 workers in 1987.

Eight companies submitted detailed information on the circumstances surrounding 18 of the 27 on-duty fatal accidents.

The American Petroleum Institute (API) has published information on fatal accidents in the petroleum industry since 1933. Each incident is described in a brief narrative format and is intended to provide information that could be used to avoid the occurrence of similar accidents in the future.

DRILLING

9/5/88--Fall

Two employees were fatally injured when one of them fell from the derrick-board and fell onto a second employee who was working on the rig floor.

GAS PROCESSING

6/2/88--Airplane Crash

A measurement foreman was conducting an aerial inspection of natural gas pipelines when his single engine aircraft crashed, killing him and the pilot.

GENERAL SERVICES

4/25/88--Suicide

An employee committed suicide. The circumstances surrounding the incident are not available at this time.

MARINE-INLAND

9/2/88--Motor Vehicle Accident

A transport driver was fatally injured when his vehicle ran off the road and overturned several times. He was pinned in the vehicle and pronounced dead at the scene.

MARKETING-RETAIL

6/10/88--Motor Vehicle Accident

An employee was killed when for unknown reasons his vehicle ran off the road and overturned several times. He was pinned in the vehicle and pronounced dead at the scene.

MARKETING-WHOLESALE

5/6/88--Motor Vehicle Accident

An employee was killed when his vehicle was struck by a train at an uncontrolled railroad crossing. He apparently failed to hear or see an oncoming train approaching the intersection.

NOTE: The company noted that this accident may have been prevented by observing a safe clearance at railroad crossings and either slowing down or stopping at uncontrolled crossings before proceeding.

PETROCHEMICALS MANUFACTURING

3/9/88--Fall

A process technician was fatally injured when he fell head first down a caged ladder.

7/25/88--Fire and Explosion

A shift foreman was killed while loading vinyl acetate monomer into a V-211 vessel when an explosion and fire occurred. A previous operator apparently used the vessel to heat water for use in cleaning another reactor vessel and failed to reset the temperature control to its normal setting. The oncoming shift operator did not check the temperature control and began loading the vinyl acetate monomer. The unusually high temperature setting caused the product to boil and vapors escaped through a manway hatch cover and were ignited by an unknown ignition source resulting in an explosion and fire.

NOTE: The company noted that the primary cause of the accident was the failure to reset the temperature controller after heating water for a cleaning operation. The following preventive measures should be followed to prevent similar occurrences:

a. Explicit instructions should be followed to verify all temperature settings at the start of each operating step.

b. Verification should be obtained that all hatch covers on vessels are bolted tightly before starting the operation.

c. Alarm devices should be installed on appropriate vessels to warn of overpressure or overheating.

PIPELINE-GAS

8/15/88--Motor Vehicle Accident

An employee was fatally injured when his vehicle sustained a flat tire while traveling on a paved county road. The driver lost control of the vehicle and it overturned crushing him between the cab of the vehicle and the ground. The employee was not wearing a seat belt at the time of the accident.

NOTE: The company noted that this accident may have been prevented by reducing speed, avoiding overreaction, and wearing seat belts.

PRODUCTION

3/7/88--Toxic Gas or Liquid

A plant operator was overcome by hydrogen sulfide which was discharging from an open bleeder control valve on a stripper reflux accumulator.

4/28/88--Electrocution

An electrician's helper was electrocuted while in the process of removing a 480 volt magnetic coil from an electrical panel when he inadvertently contacted a piece of energized electrical equipment.

NOTE: The company noted that similar accidents of this nature may be prevented by ensuring that the circuit breaker is functioning by using a voltage meter.

REFINING

5/17/88--Fire and Explosion

A tank car loader was fatally injured while she was in the process of purging a car to be loaded with propylene. There was a flash in the area around the tank car from an unknown source which caused the loading rack to become totally engulfed in flames.

5/24/88--Fire and Explosion

An operator was killed while attempting to correct a high level condition on a liquid knockout drum located upstream of a compressor at an ultra-former unit when an explosion and fire occurred. The cause of the explosion is believed to be vapors ignited by an unknown ignition source.

10/30/88--Fire and Explosion

Three employees were killed when an explosion occurred on an asphalt oxidizer unit.

LIST OF RESPONDENTS - 1988

	Key	Name
1.	00010	ALABAMA-TENN. NATURAL GAS CO.
2.	00106	AMOCO OIL CORP.
3.	00161	ARCADIA REFINING CO.
4.	00013	ASHLAND OIL, INC.
5.	00191	BHP PETROLEUM (A)
6.	00015	BP NORTH AMERICA PETROLEUM INC.
7.	00016	BP AMERICA
8.	00047	BP OIL
9.	00017	BUCKEYE PIPE LINE CO.
10.	00019	CABOT CORP.
11.	00183	CADDO PINE ISLAND CORP.
12.	00020	CALCASIEU REFINING CO.
13.	00021	CELERON OIL & GAS CO.
14.	00022	CELSIUS ENERGY CO.
15.	00211	CHASE TRANSPORTATION CO.
16.	00024	CHEVRON U.S.A. INC.
17.	00025	CHEYENNE LIGHT,FUEL & POWER CO.
18.	00026	CIBRO PETROLEUM PRODUCTS, INC.
19.	00187	CLARK OIL & REF. CORP.
20.	00029	COLONIAL PIPELINE CO.
21.	00030	COLORADO INTERSTATE GAS CO.
22.	00006	COLORADO REFINING CO.
23.	00031	COLUMBIA GAS TRANSMISSION CORP.
24.	00032	CONOCO INC.
25.	00033	COOK INLET PIPE LINE CO.
26.	00195	CROSS OIL & REFINING CO.
27.	00217	CROWN CENTRAL PETROLEUM CORP.
28.	00196	D.J. WITMAN
39.	00037	EL PASO NATURAL GAS CO.
30.	00001	ENERFIN GAS PROCESSING CORP.
31.	00205	ENOGEX INC.
32.	00122	ENRON LIQUID FUELS CO.
33.	00035	ENSERCH EXPLORATION, INC.
34.	00143	EQUITY OIL CO.
35.	00044	EUREKA PIPE LINE CO.
36.	00039	EXXON CHEMICAL AMERICAS
37.	00043	FARMLAND INDUSTRIES, INC.
38.	00185	FLYING J. PETROLEUM CO.
39.	00193	FUEL RESOURCES DEVELOPMENT
40.	00045	FUELCO

41.	00046	GOLDEN WEST REFINING CO.
42.	00158	HELLMAN PROPERTIES
43.	00048	HEWIT & DOUGHERTY
44.	00159	HUDSON REFINING COMP. INC.
45.	00053	INDIANA FARM BUREAU COOP. ASSN.
46.	00055	KANEB PIPE LINE CO.
47.	00056	KPL GAS SERVICE
48.	00057	KENTUCKY HYDROCARBON
49.	00058	KERR MCGEE CORP.
50.	00054	KN ENERGY INC.
51.	00060	LAKEHEAD PIPE LINE CO. INC.
52.	00062	LARIO OIL & GAS CO.
53.	00201	LLANO INC.
54.	00218	MAPCO ALASKA PETROLEUM INC.
55.	00065	MARATHON PETROLEUM INC.
56.	00068	MERICHEM CO.
57.	00215	MERIDIAN OIL CO.
58.	00071	MISSISSIPPI VALLEY GAS CO.
59.	00144	MOBIL PIPE LINE CO.
60.	00075	MURPHY OIL USA INC.
61.	00175	NATIONAL COOP REFINERY ASSN.
62.	00077	NATIONAL HELIUM CORP.
63.	00078	NATURAL GAS PIPELINE CO.OF AMERICA
64.	00079	NAVAJO REFINING CO.
65.	00080	NORTHERN GAS PRODUCTS CO.
66.	00081	NORTHWEST CENTRAL PIPELINE
67.	00146	NORTHWEST PIPELINE CORP.
68.	00083	OHIO OIL GATHERING CORP.
69.	00084	OKLAHOMA NATURAL GAS CO.
70.	00086	OLYMPIC PIPE LINE CO.
71.	00027	OXY USA INC.
72.	00085	PACIFIC REFINING CO.
73.	00131	PANHANDLE EASTERN PIPE LINE CO.
74.	00087	PARAMOUNT PETROLEUM CORP.
75.	00090	PHILLIPS PETROLEUM CO.
76.	00091	PLANTATION PIPE LINE CO.
77.	00092	PORTAL PIPE LINE CO.
78.	00093	PORTLAND PIPE LINE CORP.
79.	00192	POWERINE OIL CO.
80.	00176	PRIDE REFINING, INC.
81.	00094	PRODUCERS GAS EQUITIES, INC.

82.	00095	PUBLIC SERVICE CO. OF COLORADO
83.	00202	QUANTUM CHEMICAL CORP.
84.	00074	QUESTAR PIPE LINE CO.
85.	00099	SHELL OIL CO.
86.	00100	SID RICHARDSON CARBON & GAS. CO.
87.	00137	SINCLAIR OIL CORP.
88.	00101	SOMERSET REFINERY INC.
89.	00102	SONAT EXPLORATION CO.
90.	00103	SOUTH KENTUCKY PURCHASING CO.
91.	00138	SOUTHLAND OIL CO.
92.	00107	SUN COMPANY, INC.
93.	00005	SUN EXPLORATION & PRODUCTION CO.
94.	00003	TAUBER OIL CO.
95.	00216	TECO PIPE LINE CO.
96.	00109	TEXACO INC.
97.	00111	TEXAS EASTERN PRODUCTS & PIPE LINE CO.
98.	00162	TEXAS GAS TRANSMISSION CORP.
99.	00139	TOSCO CORP.
100.	00113	TRUE
101.	00114	TRUNKLINE GAS CO.
102.	00116	U. S. OIL & REFINING CO.
103.	00118	UNION OIL CO. OF CALIFORNIA
104.	00120	UNITED GAS PIPE LINE CO.
105.	00121	UNITED REFINING CO.
106.	00123	VALERO ENERGY CORP.
107.	00188	VULCAN REFINING CO.
108.	00124	WESTERN GAS SUPPLY CO.
109.	00125	WEXPRO CO.
110.	00204	WILLIAMS NATURAL GAS CO.
111.	00126	WILLIAMS PIPE LINE CO.
112.	00127	WITCO CHEMICAL CORP.
113.	00164	WOLVERINE PIPE LINE CO.

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